

SECTION 10. CONSTRUCTION DETAILS

10-1.00 DESCRIPTION OF CONTRACT ITEMS

ITEM 1 – MOBILIZATION

Mobilization shall conform to the provisions of Sections 4-1.03, "Contractor Submittals," and 10-1.24, "Temporary Erosion Control and Storm Water Pollution Prevention Plan (SWPPP)," of these Special Provisions.

Mobilization shall include the obtaining of all bonds, insurance, and permits; moving onto the site of all equipment; and the furnishing and erecting of temporary buildings and other facilities required for the performance and completion of the Work. Mobilization shall also include the following items:

- 1) Providing on-site sanitary facilities.
- 2) Arranging for and setting up Contractor's storage area(s) in accordance with Section 5-1.36, "Storage of Equipment, Materials, Supplies, Etc."
- 3) Posting all OSHA required notices and establishment of safety programs.
- 4) Posting of all Prevailing Wage Requirements.
- 5) Preparing and transmitting the Submittals outlined in Section 4-1.03, "Contractor Submittals."
- 6) Obtaining and Submitting Certificates of Compliance.
- 7) Cleaning excavating and loading equipment prior to mobilization on site and presenting receipts to Engineer.
- 8) Preparation of "As-Constructed Plans as outlined in Section 4-1.03, "Contractor Submittals."

Contractor shall be entitled to progress payments in accordance with Public Contract Code Section 20104.50. In lieu of Section 11-1.02 items A through E of "Mobilization" of the Standard Specifications, the first monthly payment estimate will be prepared when Engineer determines that five percent (5%) of the contract amount, not including mobilization, has been completed. Subsequent monthly pay estimates shall be made on the same day of the month as the first monthly pay estimate. Work completed in place less than two (2) working days prior to the preparation of the monthly pay estimate shall not be eligible for payment until the following month's estimate. The third to last paragraph of Section 11, "Mobilization," of the Standard Specifications shall be amended to read: "The adjustment provisions in Section 4-1.03, "Changes" shall not apply to the contract lump sum item of mobilization."

Payment for Mobilization Item as specified above will be made at the lump sum price bid, with no additional compensation therefor. In lieu of Section 11-1.02, "Payment," of the Standard Specifications, one partial payment of 50% of the bid price will be made upon completion of 50% of the mobilization of equipment on site and completion of items 1-7 above. The final payment of the remainder of the mobilization bid will be after satisfactory completion of the final project punch list and submittal of item 8 above. Satisfactory work completion for the partial or final payment will be determined by Engineer.

ITEM 2 – TRAFFIC CONTROL

Work under this item shall include all flaggers, temporary signs, lights, barricades, communication devices, and other devices required for the direction of local traffic through or around the work during construction. Contractor shall furnish all sign panels, posts, hardware, and all barricades and shall erect, maintain and remove all construction area signs, necessary for construction of project improvements, as specified in the Plans and these Special Provisions.

Traffic Control Requirements will be strictly enforced. Violation of these requirements is justification for Engineer to stop work until these requirements are met.

Attention is directed to Section 10-1.03, "Maintaining Traffic," and Section 10-1.04, "Traffic Control Plan," of these Special Provisions.

In lieu of Section 12-2.02, "Flagging Costs," of the Standard Specifications, the full cost of any flagging necessary shall be borne by Contractor.

Payment for Traffic Control Item as specified above shall be made at the lump sum price bid, with no additional compensation therefor. Partial payments for traffic control will be made based on the percentage of work requiring traffic control completed as determined by Engineer.

ITEM 3 – SWEEPING

Work under this item shall consist of furnishing all labor, tools, materials, and equipment necessary to sweep the project site and dispose of the swept materials. Tracking of sediment onto public streets shall be minimized by a combination of road sweeping and use of tire wash areas designated on the Plans during soil hauling operations, during equipment transporting from one work area to another, and as necessary to keep the streets clear of soil and debris. Tracking control applies to streets within the project area as well as streets adjacent to the project area that have the potential to be impacted by tracking from the project construction.

Contractor shall provide sweeping equipment that conforms to the following minimum requirements:

- The sweeper shall be a chassis-mounted vehicle capable of vacuuming the roadways such that the swept material is placed into a hopper, from which the swept material can be removed and disposed of. **Broom sweepers that are attachments to other equipment are not acceptable sweepers.**

Affected streets shall be swept a minimum of **three (3) times daily** (e.g. mid-morning, mid-afternoon, and at the end of the day) during soil hauling operations, during equipment transporting from one work area to another, and as necessary to keep the streets clear of soil and debris. The swept material shall be disposed of in accordance with Section 10-1.10C.6, "Excavation and Grading," of these Special Provisions.

Attention is directed to Section 5-1.51, "Dust and Tracking Control," of these Special Provisions.

Sweeping is a temporary erosion control measure or BMP. A fine of \$100/day will be levied against Contractor for each day Contractor delays in responding to Engineer's request to implement this temporary erosion control measure.

Payment for Sweeping Item shall be based on the lump sum price bid and on performing the sweeping operations as specified above. Partial payments for sweeping will be made based on the percentage of work completed as determined by Engineer.

ITEM 4 – TRENCH AND EXCAVATION SAFETY

Work under this item shall consist of furnishing all labor, tools, equipment, and materials necessary to install sheeting, shoring and bracing, sloping the sides of trenches/excavations, or equivalent method for trenches/excavations five feet and greater in accordance with the Plans, the Standard Specifications, and these Special Provisions.

Attention is directed to Section 10-1.10, "Excavation and Grading," and Section 10-1.26, "Shoring and Excavation Plan," of these Special Provisions. If Section 10-1.26, "Shoring and Excavation Plan," requires shoring and bracing the excavation in lieu of sloping the sides of the excavation and Contractor doesn't comply, no payment will be made under this item.

Payment for Trench and Excavation Safety Item shall be based on the lump sum price bid as specified above. Engineer has the discretion to reduce payments for this item where the need for trench and excavation protection is indicated on the Plans but not required in the field.

ITEM 5 – HUMUS FOR TOPSOIL MIX

Work under this item shall consist of furnishing all labor, tools, materials, and equipment necessary to supply humus and apply one-inch thick layer of humus on the slopes by blower equipment in accordance with the Plans, the Standard Specifications, and these Special Provisions.

The California Conservation Corps (CCC) under the direction of Engineer will provide flagging on the slopes or other means to identify the location and thickness of humus to be supplied and applied by Contractor. Attention is directed to Section 10-1.10, "Excavation and Grading," of these Special Provisions regarding humus specifications and blower equipment specifications.

Payment for Humus and Humus Application Item shall be based on the unit price bid and on the number of cubic yards of humus applied as specified above. An invoice certifying the number of cubic yards supplied and applied by the blower equipment will be the basis for determining the quantity for payment.

ITEM 6 – MOBILIZATION/DEMobilIZATION FOR MULCH BLOWING

Work under this item consists of furnishing all labor, tools, materials, and equipment necessary to mobilize and demobilize equipment and personnel required for the mulch blowing application in accordance with the Plans, the Standard Specifications, and these Special Provisions. This item provides a lump sum price should the mulch blowing operation require a **second** mobilization to and demobilization from the site due to the sequencing of the CCC's revegetation work.

If a second mobilization/demobilization is not necessary as determined by Engineer, this item shall be eliminated and such elimination shall not constitute a basis for claim by Contractor for extra payment or damages, and Section 4-1.03B, "Increased or Decreased Quantities," of the Standard Specifications shall not apply.

Payment for Mobilization/Demobilization for Mulch Blowing Item shall be based on the lump sum bid and on Engineer's determination that the sequencing of the CCC's work caused the additional mobilization and demobilization. The lump sum price for this item shall include all indirect costs (e.g., overhead).

ITEM 7 – MULCH AND MULCH APPLICATION

Work under this item consists of furnishing all labor, tools, materials, and equipment necessary to supply mulch and apply one-inch thick layer of mulch over slopes after seeding by CCC is completed, over topsoil mix at pipes out of pavement, over disturbed areas outside rock-lined channels but within the filter fence and construction limit fence, and around sediment traps after seeding by CCC is completed in accordance with the Plans, the Standard Specifications, and these Special Provisions.

The CCC under the direction of Engineer will provide flagging on the slopes or other means to identify the location of mulch to be supplied and applied by Contractor. Attention is directed to Section 10-1.10, "Excavation and Grading," of these Special Provisions regarding mulch specifications and blower equipment specifications.

Payment for Mulch and Mulch Application Item shall be based on the unit price bid and on the number of cubic yards of mulch supplied and applied as specified above. An invoice certifying the number of cubic yards supplied and applied by the blower equipment will be the basis for determining the quantity for payment.

ITEM 8 – MOBILIZATION/DEMobilIZATION FOR TACKIFIER APPLICATION

Work under this item consists of furnishing all labor, tools, materials, and equipment necessary to mobilize and demobilize equipment and personnel required for the tackifier application operation in accordance with the Plans, the Standard Specifications, and these Special Provisions. This item provides a lump sum price should the tackifier operation require a **second** mobilization to and demobilization from the site due to the sequencing of the CCC's revegetation work.

If a second mobilization/demobilization is not necessary as determined by Engineer, this item shall be eliminated and such elimination shall not constitute a basis for claim by Contractor for extra payment or

damages, and Section 4-1.03B, "Increased or Decreased Quantities," of the Standard Specifications shall not apply.

Payment for Mobilization/Demobilization for Tackifier Application Item shall be based on the lump sum bid and on Engineer's determination that the sequencing of the CCC's work caused the additional mobilization and demobilization. The lump sum price for this item shall include all indirect costs (e.g., overhead).

ITEM 9 – TACKIFIER AND TACKIFIER APPLICATION

Work under this item consists of furnishing all labor, tools, materials, and equipment necessary to supply and apply tackifier over the mulched areas in accordance with the Plans, the Standard Specifications, and these Special Provisions.

Attention is directed to Section 10-1.10, "Excavation and Grading," of these Special Provisions regarding tackifier specifications and application equipment specifications.

Payment for Tackifier and Tackifier Application Item shall be based on the unit price bid and on the number of square feet of tackifier supplied and applied as specified above or the number of gallons applied for the equivalent square feet. An invoice certifying the number of square feet supplied and applied by the application equipment will be the basis for determining the quantity for payment.

ITEM 10 – INSTALL AND MAINTAIN TIRE WASH AREA (ON PAVEMENT)

Work under this item shall consist of furnishing all labor, tools, equipment and material necessary to install, maintain, remove, and dispose of the tire wash area on pavement in accordance with the Plans, the Standard Specifications, and these Special Provisions. Work under this item includes furnishing, installing, maintaining, removing and disposing of gravel bags or gravel-filled rolls and the Class 1 Type A permeable rock filter.

Attention is directed to Section 10-1.24, "Temporary Erosion Control and Storm Water Pollution Prevention Plan (SWPPP)." Attention is directed to Section 5-1.51, "Dust and Tracking Control," of these Special Provisions regarding payment for the actual washing of tires.

A fine of \$100/day will be levied against Contractor for each day Contractor delays in responding to Engineer's request to install new temporary erosion control devices and/or maintain existing temporary erosion control devices.

Payment for Install and Maintain Tire Wash Area (On Pavement) Item shall be based on the unit price bid and on the number of tire wash areas installed and maintained as specified above. Progress payments for this Item will be a maximum of 50% of the unit cost bid multiplied by the number of tire wash areas installed on pavement during the pay period as determined by Engineer and/or required by TRPA's Compliance Division. Payment for the maintenance, removal, and disposal of all tire wash areas on pavement will be made in the Final Pay Estimate providing that satisfactory maintenance was performed throughout the duration of the project and removal was completed as specified.

ITEM 11 – INSTALL AND MAINTAIN CONCRETE WASH AREA

Work under this item shall consist of furnishing all labor, tools, equipment and material necessary to install, maintain, remove, and dispose of the concrete wash area in accordance with the Plans, the Standard Specifications, and these Special Provisions. Work under this item includes clearing and grubbing, excavation and disposal of excess material, grading, furnishing, installing, maintaining, removing and disposing of the rice straw fiber roll, woven filter fabric, and Class 1 Type A Permeable rock filter.

Attention is directed to Section 10-1.24, "Temporary Erosion Control and Storm Water Pollution Prevention Plan (SWPPP)," and Section 10-1.10, "Excavation and Grading," of these Special Provisions.

The Concrete Wash Area is a temporary erosion control device or BMP. A fine of \$100/day will be levied against Contractor for each day Contractor delays in responding to Engineer's request to maintain this temporary erosion control device. A separate \$100 fine will be levied for each time that

Contractor, subcontractor, or suppliers do not use the concrete wash out and wash out in a location that has not been approved.

Payment for Install and Maintain Concrete Wash Area Item shall be based on the unit price bid and on the number of concrete wash areas installed and maintained as specified above. Progress payments for this Item will be a maximum of 50% of the unit cost bid multiplied by the number of concrete wash areas installed during the pay period as determined by Engineer and/or required by TRPA's Compliance Division. Payment for the maintenance, removal, and disposal of all concrete wash areas will be made in the Final Pay Estimate providing that satisfactory maintenance was performed throughout the duration of the project and removal was completed as specified.

ITEMS 12 AND 13 – INSTALL AND MAINTAIN WEIGHTED FIBER ROLLS OR GRAVEL-FILLED ROLLS AND, INSTALL AND MAINTAIN FILTER FENCE

Work under these items shall consist of furnishing all labor, tools, equipment, and materials necessary to install, maintain, remove, and dispose of, where applicable, these temporary erosion control measures as required by the Plans, the Standard Specifications, these Special Provisions, and the TRPA Best Management Practices.

Attention is direction to Section 10-1.24, "Temporary Erosion Control and Storm Water Pollution Prevention Plan (SWPPP)," of these Special Provisions.

A fine of \$100/day will be levied against Contractor for each day Contractor delays in responding to Engineer's request to install new temporary erosion control devices and/or maintain existing temporary erosion control devices.

INSTALL AND MAINTAIN WEIGHTED FIBER ROLLS OR GRAVEL-FILLED ROLLS: Weighted fiber rolls or alternatively, gravel-filled rolls shall be used only in areas of compacted soil, concrete, or paved surfaces. Example of this is an area near the AC sawcut areas before placing and compacting the aggregate base shoulders. The spacing intervals shall be maintained and new sections of weighted fiber rolls or gravel-filled rolls added as the installations of these improvements progress. In addition to the placement of the weighted fiber rolls or gravel-filled rolls at the specified spacing intervals, Contractor shall place weighted fiber rolls or gravel-filled rolls at the location where each installation is temporarily discontinued. This section of weighted fiber rolls or gravel-filled rolls shall be reused to satisfy the specified intervals once the installation that had been temporarily discontinued is completed. However, payment for the installation and maintenance of this section of weighted fiber rolls or gravel-filled rolls will be made only once. The configuration for the use of weighted fiber rolls or gravel-filled rolls at the sawcut areas, but prior to the placement of aggregate base shoulder is intended to filter sediment from runoff before the runoff enters any inlets.

Areas where Contractor stores equipment or material on pavement may require the use of weighted fiber rolls or gravel-filled rolls for temporary erosion control. If a section of weighted fiber rolls or gravel-filled rolls is used in storage/staging more than once, or removed and replaced at a single location more than once, payment for installation and maintenance will be made only once. Attention is directed to Section 5-1.36, "Storage of Equipment, Materials, Supplies, Etc.," of these Special Provisions, Sheets EC-1 and T-1 of the Plans for staging/storage areas.

Contractor shall remove and dispose of all weighted fiber rolls or gravel-filled rolls measures after construction in the area is completed and TRPA approval is obtained.

Contractor shall note that **straw bales** shall not be used for any temporary erosion control measures.

Payment for the Install and Maintain Weighted Fiber Rolls or Gravel-Filled Rolls Item shall be based on the unit price bid and on the number of weighted fiber rolls or gravel-filled rolls installed and maintained as described above with no additional compensation therefor. Progress payments for this Item will be a maximum of 50% of the unit cost bid multiplied by the number of weighted fiber rolls or gravel-filled rolls installed during the pay period as determined by Engineer and/or required by TRPA's Compliance Division. Payment for maintenance, removal, and disposal of all weighted fiber rolls or gravel-filled rolls will be made

in the Final Pay Estimate providing that satisfactory maintenance was performed throughout the duration of the project.

INSTALL AND MAINTAIN FILTER FENCE (FF): FF shall be placed at the downstream edge of fill and elsewhere noted on the Plans.

TRPA or Lahontan may require that FF be used at additional locations.

Areas where Contractor temporarily stockpiles excavated materials may require FF for temporary erosion control. Attention is directed to Section 5-1.36, "Storage of Equipment, Materials, Supplies, Etc.," of these Special Provisions and Sheets EC-1 and T-1 of the Plans for the designated temporary staging/storage areas.

FF shall be removed and disposed of by Contractor after construction is completed.

Payment for the Install and Maintain Filter Fence Item shall be based on the unit price bid and on the number of linear feet of FF installed and maintained as described above with no additional compensation therefor. Progress payments for these Items will be a maximum of 50% of the unit cost bid multiplied by the number of linear feet of FF installed during the pay period as determined by Engineer and/or required by TRPA's Compliance Division. Payments for maintenance, removal, and disposal, as applicable, of filter fence will be made in the Final Pay Estimate providing that satisfactory maintenance was performed through the duration of the project and removal was completed as specified.

ITEM 14 – INSTALL AND MAINTAIN DRAIN INLET PROTECTION

Work under this item shall consist of furnishing all labor, tools, equipment, and materials necessary to install, maintain, remove, and dispose of this temporary erosion control measure as required by the Plans, the Standard Specifications, these Special Provisions, and the TRPA Best Management Practices. Work under this Item includes furnishing, installing, maintaining, removing, and disposing of the sediment trap inlet protection as shown on Sheet EC-2 of the Plans.

Attention is directed to Section 10-1.24, "Temporary Erosion Control and Storm Water Pollution Prevention Plan (SWPPP)," of these Special Provisions.

A fine of \$100/day will be levied against Contractor for each day Contractor delays in responding to Engineer's request to install new temporary erosion control devices and/or maintain existing temporary erosion control devices.

Sediment trap inlet protection shall be placed as denoted on the Plans in areas where grading has been completed and final stabilization and seeding are pending.

Payment for the Install and Maintain Drain Inlet Protection Item shall be based on the unit cost bid and on the number of Sediment Trap Inlet Protections (one per sediment trap inlet as designated by the Engineer and/or shown on the Plans to receive inlet protection) installed and maintained with no additional compensation therefor. Progress payments for this Item will be a maximum of 50% of the unit cost bid multiplied by the number of Sediment Trap Inlet Protections installed during the pay period as determined by Engineer and/or required by TRPA's Compliance Division. Payment for the maintenance, removal, and disposal of all sediment trap inlet protection will be made in the Final Pay Estimate providing that satisfactory maintenance was performed throughout the duration of the project and removal was completed as specified.

ITEM 15 – INSTALL AND MAINTAIN TREE PROTECTION AND CONSTRUCTION LIMIT FENCE

Work under this item shall consist of furnishing all labor, tools, equipment, and materials necessary to install, maintain, remove, and dispose of this temporary erosion control measure as required by the Plans, the Standard Specifications, these Special Provisions, and TRPA Best Management Practices.

Attention is directed to Section 10-1.24, "Temporary Erosion Control and Storm Water Pollution Prevention Plan (SWPPP)," of these Special Provisions.

A fine of \$100/day will be levied against Contractor for each day Contractor delays in responding to Engineer's request to install new temporary erosion control devices and/or maintain existing temporary erosion control devices.

Contractor shall perform all construction activities that are outside the road right-of-way within the construction limits staked by Engineer and delineated with construction limit fence installed by Contractor. Where directed by Engineer and/or shown on the Plans, construction limit fence shall be placed around individual trees that are to remain, in accordance with the Construction Limit Fence Detail shown on the Plans. Attention is directed to Section 10-1.22, "Disturbance and Revegetation," of these Special Provisions.

The area within which Contractor will be allowed to work will be the area within the limits of the construction limit fence. At trees near the work area, the width of the work area will be reduced in order to protect the trees. Contractor shall review each such location to determine what equipment can be used to install the improvements at these locations or if hand work will be necessary. The costs associated with working within these reduced widths shall be included in the unit price bid for the applicable item of work with no additional compensation therefor.

All Construction Limit Fence shall remain in place until equipment access is no longer necessary in the area and TRPA approval is obtained.

Where tree protection fencing cannot be placed at the dripline of the tree, the detail showing wooden tree trunk protection shall apply. The unit price bid for Install and Maintain Wooden Tree Trunk Protection shall apply to this condition.

Payment for the Install and Maintain Tree Protection and Construction Limit Fence Item shall be based on the unit cost bid and on the number of linear feet of Construction Limit Fence and/or Tree Protection fencing installed and maintained with no additional compensation therefor. Progress payments for this Item will be a maximum of 50% of the unit cost bid multiplied by the number of linear feet of Construction Limit Fence and/or Tree Protection fencing installed during the pay period as determined by Engineer and/or required by TRPA's Compliance Division. Payment for the maintenance, removal, and disposal of all construction limit fence and/or tree protection fence will be made in the Final Pay Estimate providing that satisfactory maintenance was performed throughout the duration of the project and removal was completed as specified.

ITEM 16 – TREE REMOVAL

Work under this item shall consist of furnishing all labor, tools, equipment and materials necessary for the removal and disposal of trees equal to or larger than 8" in diameter, measured at an elevation of five feet above the existing ground surface adjacent to the tree. Trees equal to or larger than 8" in diameter to be removed are shown on the Plans and will be marked in the field by Engineer.

Removal of tree stumps will not be paid for under this item. Compensation for the removal of trees less than 8" in diameter and the removal of stumps of any size as necessary for construction of the various items of work as staked by Engineer, shall be included in the unit prices paid for the various items of work as part of clearing and grubbing and no additional compensation shall be made therefor.

Attention is directed to Section 10-1.07, "Clearing and Grubbing," and Section 10-1.27, "Timber Removal Practices," of these Special Provisions.

Payment for Tree Removal Item shall be based on the unit price bid and the number of trees equal to or larger than 8" in diameter removed as specified herein and on the Plans.

ITEM 17 – ADJUST SMH AND SCO TO GRADE

Work under this item shall consist of furnishing all labor, tools, equipment and materials necessary for the

ITEM 18 – CONCRETE ENCASEMENT

Work under this item shall consist of furnishing all labor, tools, equipment and materials necessary for the

ITEM 19 – STORM DRAIN MANHOLE

Work under this item shall consist of furnishing all labor, tools, equipment and materials necessary for the

ITEM 20– DRAINAGE INLET

Work under this item shall consist of furnishing all labor, tools, equipment and materials necessary for the

ITEMS 21 AND 22 – 36" SEDIMENT TRAP, AND 48" SEDIMENT TRAP

Work under this item shall consist of furnishing all labor, tools, equipment and materials necessary to construct the sediment traps (STs) in accordance with the Plans, the Standard Specifications, and these Special Provisions. Work under these items shall include clearing and grubbing, excavation, soil salvage and mixing soil and humus, disposal of excess material, furnishing, placing, and compacting Class 1 Type A and B permeable materials, backfill, compaction, woven geotextile fabric, regrading, furnishing and installing galvanized vertical CMP (including welding culverts and connecting pipes, furnishing Caltrans 36R grates or fabrication and installation of checkered plate hinged lids, windows, and vertical bars on windows), No. 1 rock backing with precast concrete base, and placing and compacting topsoil mix around outside of ST where applicable. Also included are the ring assemblies attached to the hinged lids. The costs associated with the removal and disposal of sediment and stormwater accumulated in the traps during construction shall also be included in the unit prices bid for these items. Disposal of sediment shall be in accordance with Section 10-1.10, "Excavation and Grading," of these Special Provisions. Sediment shall be removed just prior to demobilization.

Contractor is responsible for the protection of the existing utilities in the performance of work described herein. The costs associated with providing such protection shall be included in the unit price bid for each type of sediment trap.

Contractor shall cut the sediment trap windows and holes to receive culverts in the field and weld the culverts to the vertical CMP in the field to allow for adjustments if necessary. The lids, lid assemblies, and grates may be prefabricated. Should Contractor elect to prefabricate all elements (other than CMP lengths, grates, lids, and lid assemblies) of the sediment traps, any modifications required in the field that are the result of providing prefabricated elements (other than CMP lengths, grates, lids, and lid assemblies) shall be performed by Contractor at his expense. Contractor shall submit shop drawings for all prefabricated elements of the sediment traps to Engineer within 5 working days of the Notice to Proceed for review. The concrete bases shall be precast.

Galvanized areas damaged during cutting, welding, or handling shall be repaired with suitable corrosion resistant coating approved by Engineer (see Section 5-1.49, "Certificates of Compliance").

Attention is directed to Section 10-1.26, "Shoring and Excavation Plan," for submittal requirements for safety and a description of the conditions under which sloping the sides of the excavation will be allowed in lieu of shoring and/or bracing, and Section 10-1.10, "Excavation and Grading," regarding backfill and compaction specifications.

Attention is directed to Section 10-1.17, "Culvert and CMP Structures," of these Special Provisions.

Attention is directed to Section 10-1.21, "Rock Specifications," for No. 1 rock backing requirements and Section 10-1.19, "Concrete Structures," for concrete base requirements.

The costs associated with shoring, bracing, or laying back the sides of excavations deeper than five feet are included in this Item.

Payment for 36" Sediment Trap, and 48" Sediment Trap Items shall be based on the unit prices bid for each type of sediment trap and on the number of each type of sediment trap installed as specified above.

ITEM 23 – REMOVING EXISTING PIPE

Work under this item shall consist of furnishing all labor, tools, equipment and materials necessary to remove existing culverts that are not within excavations required to perform the various improvements but are noted on the Plans for removal in accordance with the Plans, the Standard Specifications, and these Special Provisions. Work under this item includes clearing and grubbing or sawcutting, excavation, disposal of excess material, shoring and bracing or sloping the sides of the excavation for trenches less than or equal to five feet deep, removal and disposal of culvert, backfilling and compacting, and where applicable, asphalt concrete and aggregate base removal, disposal, and replacement. The width of the trench for removal of the culvert shall be sufficient to allow for proper compaction of the backfill, and where applicable, compaction of the asphalt concrete and aggregate base replacement after the culvert is removed.

Where the removal occurs outside of the pavement, the trench shall be backfilled with native material. Where the removal occurs within the pavement section, the new section shall be 2 1/2 inches compacted asphalt concrete over 8 inches compacted aggregate base and any remaining backfill shall be native. Cold AC mix shall be placed, compacted, and maintained over the trench and shall be placed and compacted immediately after the backfill compaction is complete. The costs associated with furnishing, placing, compacting, and maintaining cold AC mix shall be included in the unit price for the removal of culvert.

Alternatively, where the removal occurs within pavement, trenches may be backfilled entirely with slurry cement at Contractor's option. Where this option is selected, Contractor may temporarily extend slurry cement to the finished road surface in lieu of placing, compacting, and maintaining cold AC mix. Where this option is implemented, Contractor shall remove and dispose of the necessary thickness of slurry cement needed for the new asphalt concrete thickness. Slurry cement backfill shall be in conformance with Section 10-1.19, "Concrete Structures," of these Special Provisions. Compensation for slurry cement backfill placement, and removal and replacement, where applicable, shall be included in the linear foot cost of culvert removal.

Attention is directed to Section 10-1.10, "Excavation and Grading," Section 10-1.03, "Maintaining Traffic," Section 10-1.04, "Traffic Control Plan," and Section 10-1.19, "Concrete Structures," of these Special Provisions.

Payment for Remove Existing Pipe Item shall be based on the unit price bid and on the number of linear feet of pipe removed as specified above.

ITEM 24 – DEWATERING FOR STORM DRAIN SYSTEMS (CONNECTED PIPES, TRAPS, AND DRAINAGE INLETS)

Work under this item shall consist of furnishing all labor, tools, equipment and materials necessary to dewater the excavations for the sediment traps for the following locations:

- Sheet P-x – Sta xx+xx± LT
- Sheet P-x – Sta xx+xx± LT

It is anticipated that these areas may exhibit wet conditions. Discussions between Contractor and Engineer will determine if dewatering is necessary. If it is decided that dewatering at a particular location is unnecessary, no payment for this location will be made. If it is decided that dewatering is unnecessary at each of these locations, no payment for this item will be made. The elimination or reduction of this item shall not constitute the basis for a claim of extra payment or damage by Contractor and Section 4-1.03B, "Increased or Decreased Quantities," of the Standard Specifications shall not apply.

Contractor's attention is directed to Section 4-1.03, "Contractor Submittals," Section 10-1.01, "Order of Work," Section 10-1.20, "Dewatering," Section 10-1.24, "Temporary Erosion Control and Storm Water Pollution Prevention Plan (SWPPP)," of these Special Provisions.

Payment for Dewatering for Storm Drain Systems (connected Pipes, Traps, and Drainage Inlets) Item shall be based on the unit price bid and on the number of sediment trap locations dewatered as specified above. Alternatively no payments shall also be as specified herein and on the Plans.

ITEMS 25, 27, 29 AND 31 – 12" CMP (IN PAVEMENT), 12" HDPE (IN PAVEMENT), 18" HDPE (IN PAVEMENT), AND 24" HDPE (IN PAVEMENT)

Work under this item shall consist of furnishing all labor, tools, equipment and materials necessary to construct CMP culverts in accordance with the Plans, Standard Specifications, and these Special Provisions. Work under this item includes sawcutting, excavation, disposal of excess material, scarifying and compacting subgrade, shoring, bracing, or sloping of the sides of the excavation for trenches less than or equal to five feet deep, furnishing and laying pipe, elbows, couplings, and bends, furnishing, placing, and compacting bedding, if applicable; backfilling and compaction, if applicable; furnishing, placing, and compacting aggregate base or furnishing and placing cement slurry, asphalt concrete removal, disposal, and replacement, and removal and disposal of existing culverts within the new pipe trench where noted on the Plans. The costs associated with the removal and disposal of sediment accumulated in the culverts during construction shall also be included in the unit price bid for this item. Disposal of sediment shall be in accordance with Section 10-1.10, "Excavation and Grading," of these Special Provisions. Sediment shall be removed just prior to demobilization.

Cover is the distance from the finished surface of the proposed AC Paving to the top of the pipe. Slurry cement backfill shall be used in conformance with Section 10-1.19, "Concrete Structures," of these Special Provisions where the cover over the pipe is less than 18 inches. Attention is directed to Section 10-1.10, "Excavation and Grading," of these Special Provisions for backfill and compaction requirements where cover is greater than or equal to 18 inches.

The new AC section shall be 2 1/2 inches of compacted AC over 8 inches compacted aggregate base at all locations under this item. Cold AC mix shall be placed, compacted, and maintained over the pipe trench and shall be placed and compacted immediately after the backfill compaction is complete or the slurry cement has set. The costs associated with furnishing, placing, compacting, and maintaining cold AC mix shall be included in the unit price bid for CMP in pavement.

Compensation for slurry cement backfill placement, where applicable, shall be included in the unit price bid for CMP in pavement.

Attention is directed to Section 10-1.03, "Maintaining Traffic," Section 10-1.04, "Traffic Control Plan," Section 10-1.10, "Excavation and Grading," Section 10-1.17, "Culvert and CMP Structures," Section 10-1.19, "Concrete Structures," and Section 10-1.26, "Shoring and Excavation Plan," of these Special Provisions.

Contractor is responsible for the protection of the existing utilities in the performance of the work described herein. The costs associated with providing such protection shall be included in the unit price bid for CMP in pavement installed.

Payment for 12" CMP (in pavement), 12" HDPE (in pavement), 18" HDPE (in pavement), and 24" HDPE (in pavement) Items shall be based on the unit price bid and on the number of linear feet of pipe constructed as specified above.

ITEMS 26, 28, 30, AND 32 – 12" CMP (OUT OF PAVEMENT), 12" HDPE (OUT OF PAVEMENT), 18" HDPE (OUT OF PAVEMENT), AND 24" HDPE (OUT OF PAVEMENT)

Work under this item shall consist of furnishing all labor, tools, equipment and materials necessary to construct CMP culverts outside of EP in accordance with the Plans, Standard Specifications, and these Special Provisions. Work under this item includes clearing and grubbing, excavation, disposal of excess materials, scarifying and compacting subgrade, shoring, bracing, or sloping of the sides of the excavation for trenches five feet deep or less, bends and elbows, furnishing and laying pipe, furnishing, placing, and compacting bedding, backfilling and compaction, and removal and disposal of existing culverts within the new pipe trench where noted on the Plans. The costs associated with the removal and disposal of sediment accumulated in the culverts during construction shall also be included in the unit price bid for this item. Disposal of sediment shall be in accordance with Section 10-1.10, "Excavation and Grading," of these Special Provisions. Sediment shall be removed just prior to demobilization.

The following items are also included in the unit price bid for CMP out of pavement:

- 1) Mixing soil and humus and placement and compaction of topsoil mix in accordance with Section 10-1.10, "Excavation and Grading," and Item "Humus for Topsoil Mix" of these Special Provisions. Topsoil mixture shall be mounded over the top of the pipe as shown on the detail.
- 2) Clearing and grubbing followed by placing and compacting backfill in existing channel near Sta 27+00 RT.

Cover over the pipes shall be a minimum of 12 inches where cover is defined as the distance from finished grade elevation of the backfilled pipe trench to the top of the pipe.

Attention is directed to Section 10-1.03, "Maintaining Traffic," Section 10-1.04, "Traffic Control Plan," Section 10-1.06, "Willow Clump Salvage and Transplant," Section 10-1.10, "Excavation and Grading," Section 10-1.17, "Culvert and CMP Structures," Section 10-1.24, "Temporary Erosion Control and Storm Water Pollution Prevention Plan (SWPPP)," Items "Install and Maintain Filter Fence" and "Install and Maintain Tree Protection and Construction Limit Fence," and Section 10-1.26, "Shoring and Excavation Plan," of these Special Provisions.

Contractor is responsible for the protection of the existing utilities in the performance of the work described herein. The costs associated with providing such protection shall be included in the unit price bid for CMP out of pavement.

Payment for 12" CMP (out of pavement), 12" HDPE (out of pavement), 18" HDPE (out of pavement), and 24" HDPE (out of pavement) Items shall be based on the unit price bid and on the number of linear feet of pipe constructed as specified above.

ITEMS 33, 34, AND 35 – 12" FES, 18" FES, AND 24" FES

Work under this item shall consist of furnishing all labor, tools, equipment and materials necessary to install galvanized metal flared end sections in accordance with the Plans, Standard Specifications, and these Special Provisions. Work under this item includes excavation, disposal of excess material, backfill, compaction, installation, attachment to culvert, furnishing and installing No. 1 rock backing each side and over the FES.

The Contractor shall backfill the excavation as necessary to match the configuration of the No.1 Backing shown on the "FES with Rock Dissipator" detail.

Attention is directed to Section 10-1.10, "Excavation and Grading," Section 10-1.17, "Culvert and CMP Structures," and Section 10-1.18, "Flared End Sections," of these Special Provisions.

Payment for 12" FES, 18" FES, and 24" FES Item shall be based on the unit price bid for each type of flared end section and on the number of each type of flared end section installed as specified above.

ITEM 36 –NO.1 BACKING

Work under this item shall consist of furnishing all labor, tools, equipment and materials necessary to construct the rock slope protection in accordance with the Plans, the Standard Specifications, and these Special Provisions. Work under this item consists of clearing and grubbing, excavation, disposal of excess material, scarifying and compaction of subgrade, furnishing and placing of erosion control blanket, No.2 backing where applicable, backfill and compaction, and No. 1 rock backing.

Attention is directed to Section 10-1.10, "Excavation and Grading," Section 10-1.21, "Rock Specifications," and Section 10-1.23, "Erosion Control Blanket, Turf Reinforcement Mat, and Filter Fabric," of these Special Provisions.

Payment for No.1 Backing Item shall be based on the unit price bid and on the number of square feet of rock slope protection installed as specified above.

ITEM 37 –CONCRETE HEADWALL

Work under this item shall consist of furnishing all labor, tools, equipment and materials necessary to

ITEM 38 – ROCK-LINED CHANNEL

Work under this item shall consist of furnishing all labor, tools, equipment and materials necessary to construct the rock-lined channels in accordance with the Plans, the Standard Specifications, and these Special Provisions. Work under this item includes clearing and grubbing, excavation, placement and compaction of fill, disposal of excess material, scarifying and compaction of subgrade, furnishing and placing turf reinforcement mat and No. 1 backing, mixing soil and humus, placing and compacting topsoil mix in the area disturbed beyond the rock-lined channel but within the construction area limits, and warping the rock-lined channel to match adjacent improvements or existing ground where noted.

The costs associated with relocating the existing boulders and sediment removal on Plan Sheet P-2 are included in this Item.

For channels to be constructed outside of the road right-of-way, the channel shall be constructed with the trucks for off-hauling excess material placed on the roadway, unless Contractor can provide an alternate method that reduces tracking of dirt and minimizes disturbance. Equipment for constructing rock-lined channels outside the road right-of-way shall be track-mounted. Contractor's attention is directed to Section 5-1.51, "Dust and Tracking Control", of these Special Provisions.

Attention is directed to Items "Install and Maintain Filter Fence" and "Install and Maintain Visqueen with Gravel Bags or Gravel-Filled Rolls," Section 10-1.07, "Clearing and Grubbing," Section 10-1.10, "Excavation and Grading," Section 10-1.21, "Rock Specifications," and Section 10-1.23, "Erosion Control Blanket, Turf Reinforcement Mat, and Filter Fabric," of these Special Provisions.

Payment for Rock-Lined Channel Item shall be based on the unit price bid and on the number of linear feet of rock-lined channel installed as specified above.

ITEM 39 –BLANKET LINED CHANNEL

Work under this item shall consist of furnishing all labor, tools, equipment and materials necessary to

ITEM 40 –GRASS-LINED SWALE

Work under this item shall consist of furnishing all labor, tools, equipment and materials necessary to construct the modified grass-lined swales in accordance with the Plans, the Standard Specifications, and these Special Provisions. Work under this item shall include clearing and grubbing, excavation, placement and compaction of fill, disposal of excess material, furnishing and placing turf reinforcement mat, furnishing and placing No. 1 backing, mixing soil and humus, placement and compaction of topsoil mix adjacent to the swale in disturbed areas within the construction area limits.

The costs associated with the placement of salvaged sod in the swale shall be included in the unit price bid for Item "Sod Salvage and Transplant." Contractor's attention is directed to the fact that the modified grass-lined swales and the portion of the salvaged sod grass-lined swale on the USFS parcel (APN 33-010-19) shall be given first priority for the salvaged sod.

For swales to be constructed outside of the road right-of-way, the swale shall be constructed with the trucks for off-hauling excess material placed on the roadway, unless Contractor can provide an alternate method that reduces tracking of dirt and minimizes disturbance. Equipment for constructing modified grass-lined swales outside the road right-of-way shall be track-mounted. Contractor's attention is directed to Section 5-1.51, "Dust and Tracking Control," of these Special Provisions.

Attention is directed to Items "Install and Maintain Filter Fence" and "Install and Maintain Visqueen with Gravel Bags or Gravel-Filled Rolls," Section 10-1.07, "Clearing and Grubbing," Section 10-1.08, "Sod Salvage and Transplant," Section 10-1.10, "Excavation and Grading," and Section 10-1.23, "Erosion Control Blanket, Turf Reinforcement Mat, and Filter Fabric," of these Special Provisions.

Payment for Modified Grass-Lined Swale Item shall be based on the unit price bid and on the number of linear feet of modified grass-lined swale installed as specified above.

ITEM 41 –ROCK CHECK DAM

Work under this item shall consist of furnishing all labor, tools, equipment and materials necessary to

ITEM 42 – MISC GRADING

Work under this item shall consist of providing all labor, tools, materials, and equipment necessary to perform miscellaneous grading as shown on the Plans and as directed by Engineer. Miscellaneous grading includes excavation, placement and compaction of fill and backfill, soil salvage and mixing soil and humus, disposal of excess material in accordance with Section 10-1.10, "Excavation and Grading," of these Special Provisions, scarifying and compaction of subgrade, and placement and compaction of topsoil mix over graded areas where applicable.

Work under this item is separate from excavation, fill, compaction, disposal of excess material, and scarifying and compacting of subgrade required within other items of work in these Special Provisions.

The grading quantities shown on the plans and listed below include the topsoil mix, where applicable.

- Sheet P-x – XX CY – Sta 10+60± LT and RT, clear existing channel;
- Sheet P-x – XX CY – Sta 14+00± LT, grade to drain;
- Sheet P-x – XX CY – Sta 14+70± RT, fill existing channel;
- Sheet P-x – XX CY – Sta 42+70± RT, grade to drain;

Measurement for payment under this item shall be based on the number of cubic yards of soil excavated or the number of cubic yards of soil placed and compacted as shown on the Plans. If miscellaneous grading is required but not shown and quantified on the Plans or these Special Provisions, the payment quantity shall be mutually agreed upon by Engineer and Contractor. The quantity shown in the bid schedule is approximate and may be reduced or may be increased. The increase or reduction of this quantity compared with that set forth in the bid schedule shall not constitute a basis for a claim of extra payment or damage by Contractor and Section 4-1.03B, "Increased or Decreased Quantities," of the Standard Specifications shall not apply.

Attention is directed to Section 10-1.10, "Excavation and Grading," of these Special Provisions.

Payment for Miscellaneous Grading Item shall be based on the unit price bid and on the number of cubic yards of soil excavated or placed and compacted as quantified on the Plans and these Special Provisions and/or as determined by mutual agreement between Engineer and Contractor.

ITEM 43 – AC PAVEMENT REMOVAL

Work under this item shall consist of furnishing all labor, tools, equipment and materials necessary to remove the existing AC pavement at the areas of porous pavement, the intersection of Sawmill Road and the access road to the Sawmill Pond parking lot, and AC driveway pavement as shown on Sheets P-1, P-2, and P-6 of the Plans in accordance with the Plans, the Standard Specifications, and these Special Provisions. Work under this item includes sawcutting, removal of existing AC pavement, and disposal of AC pavement that is removed.

The costs associated with AC removal at existing or proposed culvert crossings shall be included in the unit prices bid for the applicable items.

Attention is directed to Section 10-1.01, "Order of Work," and Section 10-1.10, "Excavation and Grading."

Payment for Existing AC Pavement Removal Item shall be based on the unit price bid and on the number of square feet shown in the bid schedule, regardless of the thickness of AC, and removed as specified above.

ITEM 44 – MISC PAVING

Work under this item shall consist of furnishing all labor, tools, equipment and materials necessary to install miscellaneous AC paving in accordance with the Plans, the Standard Specifications, and these Special Provisions. Work under this item shall include sawcutting, AC removal and disposal, excavation, disposal of

excess material, grading, scarifying and compacting subgrade, furnishing, placing, and compacting aggregate base (8" compacted thickness), paint binder, placing and compacting AC (2 1/2" compacted thickness).

The following items of work will be paid for under this bid item:

- AC replacement shown on Sheet P-1 of the Plans
- Areas marked in the field by Engineer.

Regardless of the condition of the existing pavement, Contractor shall take such care of the sawcut edge of the pavement as is necessary to ensure that miscellaneous paving greater than that shown on the Plans is not necessary. All pavement disturbed beyond the limits shown on the Plans and/or marked in the field shall be replaced at Contractor's expense and shall include an additional sawcut.

Attention is directed to Section 10-1.26, "Shoring and Excavation Plan," which notes areas where the Contractor must shore excavations rather than laying back the slopes in order to avoid the need for AC removal and additional Misc AC Paving. Should the Contractor's excavation operation cause the need for additional Misc AC Paving, the Contractor shall perform this Misc AC Paving work at its own expense.

Contractor's attention is directed to Section 10-1.01, "Order of Work," Section 10-1.10, "Excavation and Grading," Section 10-1.14, "Asphaltic Emulsion (Paint Binder)," and Section 10-1.15, "Asphalt Concrete," of these Special Provisions.

Payment for Misc AC Paving Item shall be based on the unit price bid and on the number of square feet of miscellaneous AC paving installed as specified above.

ITEM 45 –AC DIKE WITH TIE-IN PAVEMENT

Work under this item shall consist of furnishing all labor, tools, equipment and materials necessary to install

ITEM 46 –ROLLED CURB AND GUTTER WITH TIE-IN PAVEMENT

Work under this item shall consist of furnishing all labor, tools, equipment and materials necessary to install

ITEM 47 –CURB END TRANSITION TYPE 1

Work under this item shall consist of furnishing all labor, tools, equipment and materials necessary to install

ITEM 48 –CURB END TRANSITION TYPE 2

Work under this item shall consist of furnishing all labor, tools, equipment and materials necessary to install

ITEM 49 –CONCRETE CURB OPENING

Work under this item shall consist of furnishing all labor, tools, equipment and materials necessary to install

ITEM 50 –DRIVEWAY R&R

Work under this item shall consist of furnishing all labor, tools, equipment and materials necessary to install

ITEM 51 –RETAINING WALL

Work under this item shall consist of furnishing all labor, tools, equipment and materials necessary to install

ITEM 52 –FORTUNE WAY BASIN

Work under this item shall consist of furnishing all labor, tools, equipment and materials necessary to install

ITEM 53 –ALICE LAKE UPPER BASIN

Work under this item shall consist of furnishing all labor, tools, equipment and materials necessary to install

ITEM 54 –ALICE LAKE LOWER BASIN

Work under this item shall consist of furnishing all labor, tools, equipment and materials necessary to install

ITEM 55 –DEL NORTE WEST BASIN

Work under this item shall consist of furnishing all labor, tools, equipment and materials necessary to install

ITEM 56 –DEL NORTE EAST BASIN

Work under this item shall consist of furnishing all labor, tools, equipment and materials necessary to install

ITEM 57 –COLD CREEK WEST BASIN

Work under this item shall consist of furnishing all labor, tools, equipment and materials necessary to install

ITEM 58 –COLD CREEK EAST BASIN

Work under this item shall consist of furnishing all labor, tools, equipment and materials necessary to install

ITEM 59 –ALICE LAKE BASIN

Work under this item shall consist of furnishing all labor, tools, equipment and materials necessary to install

ITEM 60 –HUMBOLDT BASIN

Work under this item shall consist of furnishing all labor, tools, equipment and materials necessary to install

ITEM 61 –COPPER BASIN

Work under this item shall consist of furnishing all labor, tools, equipment and materials necessary to install

ITEM 62 –RELOCATE BOULDER

Work under this item shall consist of furnishing all labor, tools, equipment and materials necessary to install

ITEM 63 – OVEREXCAVATE AND REMOVE UNSUITABLE MATERIAL

Work done under this item shall be directed by Engineer. When directed by Engineer, Contractor shall excavate below the lower limit of the excavation line shown on the Plans.

All work done under this item shall conform to the requirements of applicable portions of the Standard Specifications except as modified herein.

The quantity of this item listed in the bid schedule represents no actual estimate, is nominal only, and may be greatly increased, decreased, or reduced to zero.

Payment under this item will be limited to the volume of material removed, as directed by Engineer, below the lower limit of the excavation line and outside the dimensional limits designated on the Plans.

If excavation below the lower limit of excavation as shown on the Plans is required, the ensuing void shall be backfilled with Class 1 Type A permeable material compacted in accordance with Section 10-1.10. The permeable material shall conform to Section 10-1.10, "Excavation and Grading," of these Special Provisions.

If the improvements at which overexcavation and removal of unsuitable material is performed are in the roadway section and are to receive aggregate base and/or native backfill over the permeable material, Contractor shall place woven geotextile (filter) fabric in accordance with Section 10-1.23, "Erosion Control Blanket, Turf Reinforcement Mat, and Filter Fabric," of these Special Provisions over the permeable material prior to completing the backfilling operation.

All unsuitable material removed under this item shall be removed from the Tahoe Basin in accordance with Section 10-1.10, "Excavation and Grading," of these Special Provisions.

Payment for Overexcavate and Remove Unsuitable Material Item shall be based on the unit price bid and on the number of cubic yards of unsuitable material excavated as specified above. Measurement of the number of cubic yards shall be based on the dimensions of the void resulting from the excavation as measured by the Engineer.

ITEM 64 – ROCK FRACTURING AND REMOVAL

Work under this item shall consist of furnishing all labor, tools, equipment, and material necessary to fracture and remove any existing rock that prohibits installation of the proposed improvements to the grades shown on the Plans and that can't be removed after a reasonable effort with the equipment being used on the site has been made. Work under this item shall consist of the use of a cracking agent, or non-detonating rock breaking equipment, rather than blasting; blasting will not be allowed. The work includes fracturing the rock in accordance with the manufacturer's recommendations and removing the rock. If the rock can not be used in the construction of other improvements, Contractor shall dispose of the rock in accordance with Section 10-1.10, "Excavation and Grading," of these Special Provisions. Contractor shall be responsible for any damage to persons, private property, the work, or existing structures or utilities associated with this Item.

This specification is intended to illustrate the minimum effort that can reasonably be expected from Contractor if rock is encountered and must be removed. Should Contractor have larger equipment on site for use on the project, Contractor shall make a reasonable effort with the larger equipment to remove the rock and compensation shall not be made under this item, but shall be included in the unit price bid for the item of work for which the rock was encountered.

The quantity of this Item listed in the bid schedule represents no actual estimate, is nominal only, and may be increased, decreased, or reduced to zero.

Contractor shall notify Engineer immediately when rock is encountered that meets the definition described in the first paragraph of this Item. Engineer will consider whether the lines and grades can be adjusted to avoid fracturing and removing the rock. If Engineer determines adjustments in the lines and grades are not feasible, that the rock meets the definition described herein, and that Contractor has made a reasonable effort to remove, fracture and remove, or scrape and remove the rock with the minimum equipment specified above, then the removal and disposal of the obstructing rock shall be accomplished and paid for in accordance with the methods described in this item. Contractor and Engineer will agree to the number of cubic yards of rock fractured and removed immediately after the removal of the rock from the excavation.

The void created by the rock removal shall be backfilled with native material or whichever is applicable per the Plans and details. The backfill shall conform to and shall be compacted in accordance with Section 10-1.10, "Excavation and Grading," of these Special Provisions.

The cracking agent shall be soundless chemical demolition agent such as Bentonamit or Fract.Ag, or approved equal. The non-detonating rock breaking equipment shall be Boulder Buster, NoneX, or approved equal.

Payment for Rock Fracturing and Removal Item shall be based on the unit price bid and on the number of cubic yards of rock fractured and removed as specified above and mutually agreed upon by Contractor and the Engineer.

10-1.01 ORDER OF WORK

Order of work shall conform to the provisions in Section 5-1.05, "Order of Work," of the Standard Specifications and these Special Provisions.

Contractor shall schedule work to reduce the need for dewatering by working on the drier areas of the project first.

As described in Section 4-1.02A, "Commencement of Work Requirements," Contractor shall install temporary erosion control.

Any work started (i.e., soil disturbance) must be winterized by October 15 unless County is able to obtain an extension to the grading deadline from both TRPA and Lahontan. If extensions are not granted, County will negotiate a Contract Change Order with Contractor to remobilize to complete the remaining work during the 2011 construction season.

Contractor shall implement the following sequence of work for the project:

- All AC paving must be complete by October 31, 2011.

The California Conservation Corps (CCC), under County's direction, will perform revegetation work for the project. Contractor shall coordinate the humus application work on the slopes, and the mulch and tackifier applications with Engineer to minimize the need for additional mobilization and demobilization of the mulch and tackifier operations. The CCC will perform this work while Contractor is still fulfilling his construction contract. In areas where the CCC is to follow the work of Contractor (e.g. after Contractor places and compacts topsoil mix over pipes and after Contractor applies humus on slopes), Contractor shall notify Engineer when he has completed such work so revegetation can begin. Any disturbance of this revegetation work by Contractor's operations shall be repaired at Contractor's expense by the CCC.

Attention is directed to Section 5-1.19, "Public Safety," of these Special Provisions.

10-1.02 NOT USED

10-1.03 MAINTAINING TRAFFIC

Attention is directed to Section 7, "Legal Relations and Responsibility," and Section 12, "Construction Area Traffic Control Devices," of the Standard Specifications, Section 5-1.19, "Public Safety," and Section 10-1.01, "Order of Work," and these Special Provisions.

Traffic Control Requirements will be strictly enforced. Any violation of such requirements is justification for Engineer to stop work until requirements are met.

When entering or leaving roadways carrying public traffic, Contractor's equipment, whether empty or loaded shall in all cases yield to public traffic.

Local and emergency traffic shall be permitted to pass through construction operations at all times with as little inconvenience as possible. At the end of the day's work and when construction operations are suspended, roadways shall be opened for public traffic in both directions. Contractor's attention is directed to Section 10-1.01, "Order of Work."

When work is in progress, at least one 10-foot minimum lane shall be opened to public traffic. Otherwise, two 10-foot lanes of traffic shall be maintained.

Contractor shall provide access to all driveways at all times. No driveways shall be out of service unless other arrangements are made with the property owner(s). Contractor shall notify County 48 hours in advance of any work that will affect any owner's driveway. Contractor shall submit a plan that describes his method of operation that will provide for operable driveways. This plan shall be in accordance with Section

4-1.03, "Contractor Submittals," of these Special Provisions and shall be submitted for Engineer's acknowledgment at least two weeks prior to the performance of any work that affects driveways.

Equipment actively engaged in construction shall be confined to the work corridor marked by delineators spaced at 30-foot intervals, and will not be allowed to travel or encroach upon the travel lane(s) used to convey local traffic through the project, unless traffic is controlled by an adequate number of flaggers.

At the end of each working day if a difference in excess of 0.15 foot exists between the elevation of the existing pavement and the elevation of any excavation within twenty (20) feet of the traveled way, material shall be placed and compacted against the vertical cuts adjacent to the traveled way. During excavation operations, native material may be used for this purpose, however, once the placing of the new AC section commences, aggregate base shall be used. The material shall be placed to the level of the elevation of the top of existing pavement and tapered at a slope of 4:1 or flatter to the bottom of the excavation. Treated Class 2 Aggregate Base shall not be used for the taper. Full compensation for placing the material on a 4:1 slope, regardless of the number of times it is required to be removed and replaced shall be considered as included in the contract price paid for the applicable item and no additional compensation will be allowed therefor. No payment will be made for material placed in excess of that required for the new AC section.

Alternatively, at the end of each working day, the edge of the excavations adjacent to the travel lane for aggregate base shoulder shall be delineated with traffic cones or flexible delineators. Any excavations for sediment traps not backfilled at the end of the work day shall be covered with trench plates and delineated with traffic cones or flexible delineators and flashing barricades. Contractor shall not excavate more than can be installed and backfilled in one working day. If the backfill for the culvert installation is placed but not compacted by the end of the work day, the trench shall be plated, or otherwise prepared to safely provide a minimum of two ten-foot travel lanes.

When traffic cones or delineators are used to delineate a temporary edge of travel lane, the line of cones or delineators shall be considered to be the edge of travel lane, however, Contractor shall not reduce the width of the travel lane to less than 10 feet within County right-of-way without written approval from Engineer.

When work is not in progress on a trench or other excavation that requires reduction or closure of the travel lane, the traffic cones or portable delineators used for the travel lane reduction or closure shall be placed off of and adjacent to the edge of the traveled way. The spacing of the cones or delineators shall be not more than the spacing used for the lane closure.

Personal vehicles of Contractor's employees shall not be parked within the construction limits at any time. Contractor shall make his own arrangements relative to keeping the work area clear of parked vehicles, whether belonging to his employees or to private individuals.

Construction area signs shall not be used until they are needed and when no longer needed they shall become the property of Contractor and shall be removed from the site of the work.

The seventh paragraph of Section 12-3.06, "Construction Area Signs," of the Standard Specifications shall be amended to read as follows:

Contractor shall clean all construction area sign panels at the time of installation and as often thereafter as Engineer determines to be necessary, but at least once every month.

Signs damaged by any cause shall be repaired or, if determined by Engineer to be irreparable, replaced by Contractor at his expense.

All construction area signs shall conform to the dimensions, color, legends, and reflectorization or lighting requirements of the Plans, the California Manual on Uniform Traffic Control Devices for Streets and Highways (FHWA's MUTCD 2003 Revisions 1 and 2, as amended for use in California), also called the California MUTCD, and these Special Provisions. All sign panels shall be the product of a commercial sign

manufacturer, but need not be new. Used sign panels, in good repair may be furnished with Engineer's approval.

Except as otherwise shown on the Plans, construction area signs shall be stationary signs or portable signs. Construction area signs shall be erected at the locations shown on the Plans or in Contractor's Traffic Plan approved by Engineer.

Stationary signs shall conform to Section 12-3.06A, "Stationary Mounted Signs," of the Standard Specifications with the following additions:

Stationary signs that are shown on the Plans or described in these Special Provisions, or as directed for placement by Engineer, shall be attached to 4" x 4" wood posts with 5/16" galvanized carriage bolts and washers. The posts shall be securely set a minimum of 30" in the ground and such that the bottom of the signs will be five (5) feet above the pavement.

Sign panels for stationary mounted signs shall consist of high quality reflective sheeting applied to a base of aluminum or plywood in conformance with the following:

Base material shall be exterior grade plywood not less than 3/8" thick, or sheet aluminum not less than 0.063" thick for widths up to 42" and not less than 0.080" thick for widths of 48" or greater.

Portable signs shall conform to the provisions of Section 12-3.06B, "Portable Signs," of the Standard Specifications except the third paragraph shall be amended to read: "The sign standard or framework shall be capable of supporting the size of the sign specified."

The fact that rain or other causes, either within or beyond the control of Contractor, forces delay of the work, shall in no way relieve Contractor of his responsibility for maintaining traffic through the project as specified herein. Contractor shall at all times keep on the job such material, force, equipment as may be necessary to keep the roads within the project open to traffic and in good repair, and shall expedite the passage of traffic using such labor and equipment as may be necessary.

The term "Construction Area Signs" shall include all temporary signs required for the direction of local traffic through or around the work during construction. Such signs are shown in or referred to in the California Manual on Uniform Traffic Control Devices for Streets and Highways (FHWA's MUTCD 2003 Edition, including Revisions 1 and 2, as amended for use in California), also called the California MUTCD, hereinafter referred to as California MUTCD.

Construction Area Signs shall conform to Section 12-3.06, "Construction Area Signs," of the Standard Specifications with the following additions and amendments:

Contractor shall furnish all sign panels, posts and hardware, and shall erect, maintain, and remove all construction area signs shown on the Plans as provided in these Special Provisions.

Traffic cones shall conform to the provisions of Section 12-3.10, "Traffic Cones," of the Standard Specifications.

In lieu of the provisions in Section 7-1.08, "Public Convenience," Section 7-1.09, "Public Safety," and Section 12-2.02, "Flagging Costs," of the Standard Specifications, Contractor shall bear the entire cost of furnishing flaggers and furnishing, installing, maintaining, and removing signs, lights, flares, barricades, delineators, and other warning and safety devices.

Full compensation for providing signs, covering and uncovering signs, lights, flares, traffic cones, flaggers, delineators, barricades, warning and safety devices shall be made under the lump sum item "Traffic Control."

10-1.04 TRAFFIC CONTROL PLAN

Traffic Control Procedures on County roads shall conform generally to Caltrans Standard Plans, the California MUTCD, and these Special Provisions.

The Traffic Control Plan shown on Sheet T-1 of the Plans has been prepared as a guide to Contractor in preparation of a complete Traffic Control Plan and to aid in Contractor's planning for staging/storage of materials and equipment. Contractor's Traffic Control Plan shall include detailed controls, including flaggers, lane closures and signs, road closures and signs, as applicable, for all items of road work which will require alteration of existing traffic patterns. Contractor's Traffic Control Plan shall include all signing required on intersecting streets within the area that will require traffic control. Contractor's plan shall address traffic control related to truck traffic associated with the project construction.

Contractor's Traffic Control Plan shall conform to the provisions of Section 5-1.19, "Public Safety," Section 10-1.01, "Order of Work," and Section 10-1.03, "Maintaining Traffic," of these Special Provisions and the California MUTCD.

Submittal of Contractor's Traffic Control Plan shall conform to Section 4-1.03, "Contractor Submittals," of these Special Provisions. No work shall be commenced on County roads until the Traffic Control Plan is approved by Engineer. Any violation of the Traffic Control requirements is justification for Engineer to stop work until the requirements are met.

The costs associated with the requirements outlined in this section shall be included in the Item "Traffic Control" and no additional compensation will be made therefor.

10-1.05 NOT USED

10-1.06 WILLOW CLUMP SALVAGE AND TRANSPLANT

The Engineer has delineated the following location for salvaging and transplanting willows:

- 1) Sheet P-1 of the Plans -- One willow clump shall be salvaged from the existing roadside channel and shall be transplanted as directed by the Engineer.

The following detailed procedure shall be followed in salvaging and transplanting the willows:

The term "willow" used above includes all branches, leaves, and the entire root ball and soil attached and shall be referred to in this procedure as a "willow clump". Transplanting of willow clumps shall occur immediately after removal or later that day. The Contractor's grading for the construction of the areas where the willow clumps will be transplanted shall progress such that the willows to be removed and transplanted can be replanted immediately after removal without interfering with the final grading in the areas of replanted willow clumps. The equipment access specified in the bid items in the areas where the willows will be salvaged and transplanted shall apply for removal and transplanting of willows in these areas.

- 1) For those willows that will be transplanted immediately:
 - a) The Contractor shall trim the willows to a height of two feet. The trimmings shall be disposed of.
 - b) Planting holes shall not be prepared more than two hours prior to willow removal. The Contractor shall excavate an area large enough to receive the willow root ball to a depth of 12" below the root zone, shall loosen soils in the bottom and along the sides of the hole, and moisten soils to the rooting depth.
 - c) The Contractor shall remove each willow clump using an 18" minimum bucket. The removal shall include the willows and root ball with soil attached. The void created by the removal shall be backfilled with native material and the backfill shall be compacted.
 - d) The Contractor shall place the willow clump in the excavated area to receive the willow root ball

such that the top of the root ball is 1" to 2" below the existing grade; backfill with the moist excavated soil; tamp soil firmly in place such that the backfill matches the surrounding grade and no voids exist around the root ball.

- e) Contractor shall then irrigate the transplanted willow clump once thoroughly. The County will assume responsibility for additional irrigation.

2) For those willows to be transplanted later:

- a) The Contractor shall trim the willows to a height of two feet.
- b) The Contractor shall remove each willow clump using an 18" minimum bucket. The removal shall include the willows and root ball with soil attached. The void created by the removal shall be backfilled with native material and the backfill shall be compacted.
- c) The Contractor shall wrap the root ball in burlap and tie the burlap to the willow at the top of the roots.
- d) The Contractor shall transport the willow clump and store it in the shade next to the area where it will be transplanted.
- e) When it is time to transplant the willow clumps, but no later than two hours after removing willow clump from storage, the Contractor shall excavate an area large enough to receive the willow root ball, wet the excavated area to a depth of 12" below the root zone, shall loosen soils in the bottom and along the sides of the hole, and moisten soils to the rooting depth. The Contractor shall place the willow clump in the excavated area to receive the willow root ball such that the top of the root ball is 1" to 2" below the existing grade; backfill with the moist excavated soil; tamp soil firmly in place such that the backfill matches the surrounding grade and no voids exist around the root ball. Contractor shall then irrigate the transplanted willow clump once thoroughly. The County will assume responsibility for additional irrigation. If the willow transplant cannot be completed by the end of the day, the Contractor shall delay the transplant, irrigate the root ball, and leave it in the shade where it had been stored. Transplanting shall then be accomplished as the first item of work the following day. In any case, the transplanting shall be scheduled such that any delay in completing the operation in one day will not result in postponing the transplant until after a weekend or holiday.

Contractor's attention is directed to Section 10-1.07, "Clearing and Grubbing," and Section 10-1.10, "Excavation and Grading," of these Special Provisions.

10-1.07 CLEARING AND GRUBBING

Construction areas to receive improvements shall be cleared of all logs, stumps, roots of felled trees, brush, grass, weeds, fencing, debris, and all other deleterious material. Grubbing in these areas shall consist of removal of all buried roots, stumps, logs, and any foreign objects encountered within a radius of one foot beyond the proposed structure. Areas shall only be cleared and grubbed to the minimum required for installation of improvements as specified.

Contractor's attention is directed to Section 10-1.10, "Excavation and Grading," of these Special Provisions regarding reusing soil from excavated areas. Removal and disposal of trash, branches, shrubs, and pine cones from the excavated material is included in the clearing and grubbing within the specific improvement item.

Trees shall be removed in such a manner as to cause no damage to the road, existing drainage facilities, adjacent property or utilities, or the public. Contractor shall remove felled logs from site within 48 hours of felling. Logs infested with insects shall be covered with clear plastic sheeting and sealed at the ground until the wood is disposed of.

All areas where tree stumps are removed shall be backfilled with native material or other material as applicable to the location of the void relative to the improvements compacted in accordance with Section 10-1.10, "Excavation and Grading," of these Special Provisions, and regraded to match adjacent existing ground elevations. Stumps that interfere with the installation of improvements shall be removed to a depth of 2' below the bottom of the improvement. Stumps shall not be removed in areas that will be graded (e.g. rock-lined channels) until just prior to the beginning of grading to minimize the areas of exposed bare soil.

All activities controlled by Contractor, except cleanup or other required work, shall be confined within County road rights-of-way, the permanent and temporary easements, and construction limits.

Nothing herein shall be construed as relieving Contractor of his responsibility for final cleanup of the construction areas provided in Section 4-1.02, "Final Cleaning Up," of the Standard Specifications.

Except as noted herein, all cleared and grubbed and waste material shall become the property of Contractor and shall be disposed of outside the Tahoe Basin or at a site approved by all local, state, and federal agencies.

Contractor shall take all necessary precautions to preserve all on-site trees and vegetation not designated for removal. Such precautions shall include placing construction limit fence along the length of the construction limits noted on the Plans. If ordered by Engineer and where noted on the Plans, Contractor shall provide and install suitable safeguards, approved by Engineer, to protect trees and/or vegetation from injury or damage. If trees and/or vegetation are injured or damaged by reason of Contractor's operations, they shall be replaced in kind by Contractor to a condition acceptable to Engineer and at Contractor's expense.

Where roots of live trees are encountered and can't be protected as described in Section 10-1.24, "Temporary Erosion Control and Storm Water Pollution Prevention Plan (SWPPP)," of these Special Provisions, and must be removed, all roots larger than 1-1/2" in diameter shall be saw cut, leaving a clean cut. The ends of the remaining root shall be treated with emulsified asphalt.

Contractor's attention is directed to Section 10-1.27, "Timber Removal Practices," of these Special Provisions.

Full compensation for all work involved in clearing and grubbing, which includes trees with a diameter less than 8" and all stumps, regardless of size, including stumps of trees felled by Contractor larger than or equal to 8", shall be considered as included in the compensation for the various contract items of work and no additional compensation will be allowed therefor. Tree removal for trees equal to or greater than 8" diameter measured at a height five above the adjacent ground shall be paid under Item "Tree Removal."

10-1.08 SOD SALVAGE AND TRANSPLANT

SOD SALVAGING AND TRANSPLANT PROCEDURES:

- 1) The Engineer will delineate with paint in the field the exact areas of sod to be salvaged from the locations specified in the bid item description and on the Plans. After discussions with the Contractor a quantity of salvageable sod from each location will be agreed upon. The Contractor shall notify the Engineer prior to beginning each and every salvage operation in order for the Engineer to schedule a County representative to observe the salvaging operations. A minimum of two hours notice shall be given. After salvaging operations in an area are complete, the County representative will determine the exact quantity of sod that was finally salvaged.
- 2) All sod shall be salvaged immediately before any excavation work is begun at the area where sod is to be salvaged and improvements are to be constructed. Sod to be salvaged shall be irrigated prior to removal such that conditions are moist from the surface to a depth of 4" below the surface. Sod removal shall result in the salvaged sod having a uniform thickness with a smooth bottom. The sod shall be removed in clumps with a minimum thickness of 2" and a maximum of 6" and in as large a length and width as practicable. Sod shall be salvaged in such a manner as

to minimize the disturbance of the soil bound by the root mass and the contiguous integrity of the sod section.

- 3) Salvaged sod shall be stored on the ground near the improvement where it is to be transplanted in an area that is already disturbed or that will be disturbed by the proposed construction. Salvaged sod shall be stored no longer than 72 hours.
- 4) Sod clumps shall be placed on the ground side by side, roots facing down, in the shade, one layer deep, with the edges snugly adjoining adjacent sections. Sod on the perimeter of the storage area shall have the outermost edges covered with wetted burlap within 30 minutes of storage to protect the roots and conserve soil moisture. The Contractor shall be responsible for providing adequate moisture to the sod during the interim storage period.
- 5) As soon as the work in the area where the sod is to be transplanted is completed such that the sod can be transplanted, the Contractor shall saturate the subgrade to a minimum depth of 4" before transplanting the sod. Sod shall be placed with sides snugly adjoining adjacent sod sections. Voids between sod sections shall be filled with topsoil mix. Sod shall be firmly tamped or rolled after placement to eliminate air pockets between the prepared surface and the roots. Sod shall be placed so that the top surface forms a continuous shape.
- 6) Sod shall be thoroughly irrigated immediately following placement. The Contractor shall be responsible for providing adequate irrigation to all sod salvaged and transplanted during the period of this contract. Sod shall be irrigated thoroughly a minimum of every 3 days. Attention is directed to Appendix E "Dewatering Plan" for provisions that allow the use of dewatering effluent to irrigate sod.

If an excavator bucket is used for sod salvage, the bucket shall have a plate lip or cutting bar. The bucket shall also be equipped with a hydraulic tilt or swivel to allow angling of the bucket 45 degrees to the right or left. Section 5-1.11 of the Standard Specifications applies with the condition that the written request for "Alternate Equipment" be submitted within 3 working days of receiving the Notice to Proceed.

10-1.09 WATERING

Watering shall conform to the provisions in Section 17, "Watering," of the Standard Specifications, except that full compensation for developing a water supply shall be considered as included in the prices paid for the various contract items of work involving the use of water and no separate payment will be made therefor.

No guarantees of an available source of water supply, implied or otherwise, are made by County. It shall be the sole responsibility of Contractor to make all necessary arrangements in order to develop a source of water supply.

10-1.10 EXCAVATING AND GRADING

A. GENERAL

Earthwork shall conform to the provisions in Section 19, "Earthwork," of the Standard Specifications and these Special Provisions. In lieu of the applicable provisions in Section 19-3.08, "Payment," full compensation for excavation, backfill, and pervious material shall be considered included in the contract item prices paid for the applicable items of work. Excavation and grading for erosion control improvements as shown on the Plans shall be considered as a part of the respective erosion control item and no additional compensation will be allowed therefor.

If rock is encountered in the bottom of the trenches where culvert or sediment traps are to be placed, Contractor shall immediately notify Engineer so that an assessment of the impact on the design can be made. If the design can not be modified and the removal of the rock is necessary, the cost associated with the rock removal and disposal in the applicable bid item unless the rock removal and disposal meets the criteria for payment under "Rock Fracturing and Removal" item of these Special Provisions.

B. COMPACTION

County will, at their expense except as noted in Section 5-1.20 "Testing" of these Special Provisions, provide compaction testing of subgrade to verify that Contractor has achieved the required compaction. Relative compaction will be based on the maximum dry unit weight as determined by ASTM D-1557. Corrections to the Unit Weight for Soil Containing Oversize Particles will be made in accordance with ASTM 4718.

Compaction testing will be performed on subgrade (where applicable), aggregate base, fill, backfill, topsoil, and where applicable, permeable material. Contractor shall provide a 24-hour notice to Engineer stating when Contractor will be completed with an operation that requires compaction testing to allow Engineer time to schedule testing before Contractor begins with the next operation. County will make every effort to collect native samples and to provide moisture-density curves in a timely manner. However, should Contractor choose to proceed with the work before compaction criteria for native soil or fill material can be verified, he assumes the risk of having to remove this work at his expense if subgrade compaction is later found to be inadequate. Subgrade that exhibits pumping will not be accepted.

All compaction shall be accomplished with mechanical compaction. Fill or backfill that exhibits pumping will not be accepted.

All areas where asphalt concrete, Portland Cement Concrete, aggregate base, Class 1 Types A and B permeable material, fill, backfill, or No. 1 rock backing is to be placed over native material, the native material shall be scarified a minimum of six (6) inches, thoroughly mixed with water to the optimum moisture for compaction, and compacted to a minimum of 90% relative compaction prior to placement of fill or other material unless noted otherwise on the Plans.

In any case where undisturbed native material becomes disturbed during excavation, the native material shall be scarified a minimum of six (6) inches, thoroughly mixed with water to the optimum moisture for compaction, and compacted to a minimum of 90% relative compaction prior to placement of fill or other material as shown on the Plans.

All fill and backfill using native material or excess excavated material shall be thoroughly mixed with water to the optimum moisture for compaction. Lift thickness shall be a maximum of 8" thick, loose, prior to compaction. Unless otherwise specified, all fill and backfill placed shall be compacted to a minimum relative compaction of 90%. These provisions also apply to imported fill or backfill if it is necessary.

Native backfill at sediment traps and culverts shall be compacted to a minimum of 90% relative compaction.

All Class 2 aggregate base to be placed over native material or for pipe backfill as applicable, culvert removal backfill, and at edge of pavement, shall be compacted to a minimum of 95% relative compaction.

Class 1 Types A and B permeable material to be placed over native material shall be compacted to a minimum of 90% relative compaction. Compaction of permeable material shall be verified by an established method agreed upon by Engineer and Contractor.

The void created by stump removal, culvert removal, or rock removal shall be filled with native material and compacted to a minimum of 90% relative compaction if such backfill material is consistent with the required backfill for the location of the void. The void resulting from the removal of unsuitable material shall be backfilled with Class 1 Type A permeable material and compacted to a minimum relative compaction of 95%, except if unsuitable material is overexcavated from the bottom of a sediment basin. In this case 85% minimum and 90% maximum relative compaction will be required.

All costs associated with compaction shall be included in the various items of work and no additional compensation will be made therefor.

Compaction Requirements at Storm Drain Pipe and Sediment Traps

General

Where rock is encountered at the bottom of the trench where the pipe is to be laid such that a point load on the pipe is created by the rock, the rock shall be removed to a depth of 6" below the trench bottom. The 6" shall be backfilled with Class 1 Type A permeable material and compacted to 90% relative compaction. Compaction of permeable material shall be verified by an established method agreed upon by Engineer and Contractor. The costs associated with the rock removal and disposal shall be included in the applicable pipe bid item, unless the rock removal meets the criteria for payment under "Rock Fracturing and Removal" item of these Special Provisions.

Where rock is encountered at the bottom of the excavation for an open bottom sediment trap such that infiltration could be achieved if the rock were removed, the rock shall be removed. The void shall be backfilled with Class 1 Type A permeable material and compacted to 90% relative compaction. Compaction of permeable material shall be verified by an established method agreed upon by Engineer and Contractor. The costs associated with the rock removal and disposal shall be included in the applicable Sediment Trap item, unless the rock removal meets the criteria for payment under "Rock Fracturing and Removal" item of these Special Provisions. Alternatively, the Engineer may direct Contractor to install a sealed base over the rock for the sediment trap.

For pipe in pavement, cover is defined as the distance between the top of the pipe and the finished surface of the proposed AC paving. For pipe out of pavement, cover is defined as the distance between the top of the pipe and the top of the pipe trench finish grade.

All costs associated with bedding and backfill shall be included in the various items of work and no additional compensations shall be made.

C. EXCESS MATERIAL, TOPSOIL, MULCH, HUMUS, AND TACKIFIER

1. CUT, FILL, TOPSOIL, TOPSOIL MIX, MULCH, & HUMUS VOLUMES

The following quantities have been calculated using topographic information shown on the Plans. The volumes shown are "raw" meaning that neither shrinkage, subsidence, nor bulking have been taken into account. It is assumed for the quantities shown that no rock was encountered. It is Contractor's responsibility to review these quantities and apply the necessary factors to determine the volume of import material necessary (or if it is necessary).

EARTHWORK SUMMARY BY IMPROVEMENT

ALL VOLUMES ARE IN CY	CUT	FILL	AC REMOVAL	MULCH	HUMUS
Slopes					
Culvert and FES (pipe displacement) & pipe removal					
Sediment Traps					
No. 1 Backing					
Driveway R&R					
Misc Paving					
AC Removal					
Misc Grading					
TOTAL	0	0	0	0	0

Importing of material (other than humus, mulch, and tackifier) or disposal of excess material shall be included in Contractor's bid for the various items of work and no additional compensation will be made therefore.

Any material excavated on site shall be used for fill or backfill and shall contain less than 2% by volume nondecomposed organic material and material no larger than 1 1/2" in the largest dimension.

2. TOPSOIL MIX

Salvage

After removal and disposal of pine cones, branches, trash, and other large debris (i.e. clearing and grubbing), Contractor shall excavate and stockpile the native soil and undecomposed plant material from the two "clear existing channel" locations near the existing 48" CMP, the bike path, and sediment traps.

The stockpiled, excavated material will be mixed in a ratio of 3:1 (salvaged material to humus) with humus at the project site to create the topsoil mix. The humus shall conform to the provisions of 10-1.10D of this section. Compaction of the topsoil mix shall be in accordance with 10-1.10B of this section.

Mixture, Placement, and Compaction

Contractor shall place and compact the topsoil mix (2" compacted thickness unless noted otherwise below) at the following improvements

- In grass-lined swale (sod by others) bottoms and slopes when salvaged sod quantities are limited;
- Grade to drain and miscellaneous grading locations (except for the two "clear existing channel" areas near 48" CMP);
- 0.30' compacted thickness over the top of pipe backfill for pipe out of pavement;
- On the disturbed shoulders of staging areas when the staging area is no longer needed for staging and storage (scarify area 6" deep prior to placement of topsoil mix);

- Over all disturbed areas just outside of but within the construction area limits of rock-lined channels, grass-lined swales (all types), and existing channels that are backfilled;
- Behind porous pavement and around rock dissipators; and,
- Around sediment traps and rock bowls.

Humus shall be mixed with salvaged soil in a ratio of 3:1 (soil to humus) to create topsoil mix. Humus and salvaged soil must be mixed together in a separate stockpile. Mixing of these materials in place at the locations the topsoil mix will be placed will not be acceptable. The costs associated with salvaging and stockpiling soil, furnishing humus, mixing the soil with humus, and placing and compacting the topsoil mix shall be included in the various items of work requiring topsoil mix and no additional compensation will be made therefor.

3. MULCH

Mulch and its application shall conform to 10-1.10D of this section. After topsoil mix is placed and compacted, Contractor shall apply 1" mulch to the following improvements and as noted on the Revegetation Plan of the Plans:

- Over the top of pipe backfill for pipe out of pavement;
- Over the disturbed shoulders of staging areas when the staging area is no longer needed for staging and storage;
- All disturbed areas just outside of grass-lined swales (all types) and No. 1 Backing but within the FF or CLF;
- Around STs for a minimum width of 12";
- On slopes after Contractor blows humus and after the CCC places seed, soil amendment, and blanket, where applicable in accordance with the Revegetation Plan of the Plans;
- Behind porous pavement: taper 1/2" at EP for 2' then 1" continuous beyond; and,
- Areas of miscellaneous grading and existing channels that are backfilled.

Attention is directed to Item "Mobilization/Demobilization for Mulch Blowing" for the sequencing of the mulch application. The cost associated with furnishing and applying mulch shall be included in the unit price bid for the Item "Mulch and Mulch Application."

4. HUMUS

Contractor shall apply 1" humus to slopes that are to be revegetated (see Revegetation Plan of the Plans) after the CCC has loosened the soil.

Humus and its application shall conform to 10-1.10D of this section. The cost associated with furnishing and applying humus shall be included in the unit price bid for the Item "Humus and Humus Application."

5. TACKIFIER

Contractor shall apply tackifier to all areas that have been mulched. Tackifier and its application shall conform to 10-1.10D of this section. Attention is directed to Item "Mobilization/Demobilization for Tackifier Application" for the potential sequencing the tackifier application. The cost associated with furnishing and applying mulch shall be included in the unit price bid for the Item "Tackifier and Tackifier Application."

6. DISPOSAL OF EXCESS MATERIAL

Asphalt & Concrete

Asphalt concrete (e.g. pavement) and Portland cement concrete (e.g. concrete wash area) removed from any portion of the project shall be disposed of by Contractor at his expense and shall be disposed of outside of the Lake Tahoe Basin. AC and concrete may be disposed of in the Lake Tahoe Basin

provided Contractor obtains and submits written approval from all applicable state, local, and federal agencies.

Soil & Rock

Section 19-2.06, "Surplus Material," of the Standard Specifications is amended to read as follows:

Surplus excavated materials from any portion of the project, if suitable according to the provisions of these Specifications and the Plans, shall be used to balance material deficiencies in any other portion of the work. **As the excavation for an item of work progresses, the excess excavated material shall not be stockpiled adjacent to where it was excavated unless the area is an approved storage area.** The excess excavated material shall be removed as it is excavated from the site of the excavation for stockpiling in an approved staging area or for use as fill or backfill in an applicable item of work. Excess material that can not be reused on site shall be defined as unsuitable material; or material that is removed from temporary erosion control devices and the sweeper in satisfying the maintenance of these devices; or material that is larger than 1 1/2" in the largest dimension, but doesn't meet the rock specifications outlined in these Special Provisions; or material that has less than 2% by volume nondecomposed organic matter and contains material no larger than 1 1/2" in the largest dimension, but is in excess of what is needed for fill or backfill for the proposed improvements. Any excess or unsuitable material shall be disposed of by Contractor at his own expense and shall be disposed **outside of the Lake Tahoe Basin.** Materials may be disposed of in the Lake Tahoe Basin providing Contractor obtains and submits to County written approval from all applicable state, local, and federal agencies. At no time shall excess material be disposed of or stockpiled in such a way as to allow erosion of the material or to pose a threat of adverse water quality impact. The costs associated with stockpiling, disposing of, or reusing excess material are included in the applicable items with no additional compensation therefor.

D. MATERIALS

1. Permeable Material

Class 1 Type A 3/4" and Class 1 Type B 1 1/2" permeable material shall conform to the following requirements:

Class 1 Type A 3/4"	
Sieve Sizes	Percent Passing
1"	100
3/4"	90
1/2"	59
3/8"	39
No. 4	2
No. 10	2

Class 1 Type B 1 1/2"	
Sieve Sizes	Percent Passing
1 1/2"	100
1 1/4"	88
1"	24
3/4"	9
1/2"	7
3/8"	4

2. Imported Fill or Backfill

If required, imported fill or backfill shall be a silty sand material designated by SM in the Unified Soil Classification System (USCS).

Should such imported material be required, Contractor shall notify Engineer of the borrow site location 72 hours before Contractor plans to pick-up the material so Engineer can verify the suitability of the material.

3. Humus

Humus shall consist of an amendment that shall be the result of an aerobic composting process maintaining temperatures greater than 135°F and less than 165°F, for a minimum of 10 days. Nitrogen introduction shall be derived from dairy manure. The compost feedstock must consist of a minimum of

50% by volume indigenous forest vegetation from the Lake Tahoe Basin. The humus shall be 50% Humus Fines (3/8" minus) and 50% wood "overs" (3/8" to 3"). Full Circle Compost (Humus is called "Integrated 50%") and Bently Agridynamics, both in Minden, Nevada, produce a humus that satisfies these requirements.

Contractor shall notify Engineer of the proposed location of the source of imported humus 72 hours before Contractor plans to pick-up the material so Engineer can verify the suitability of the material. Contractor shall submit written certification that the humus is weed free.

Humus on slopes to be revegetated shall be applied by means of a pneumatic conveying system capable of blowing the humus at rates between 10 and 15 cubic yards per hour and shall be capable of blowing the humus a distance of 300 feet as necessary to access slopes. The conveying equipment shall have a self- contained dust suppression system.

4. Mulch

Material shall be the result of an aerobic composting process maintaining temperatures greater than 135 degrees Fahrenheit and less than 165 degrees Fahrenheit for a minimum of 10 days. Nitrogen introduction shall be derived from dairy manure. The compost feedstock must consist of a minimum of 50% by volume indigenous forest vegetation from the Lake Tahoe Basin. The resulting finished compost shall consist of 75% wood "overs" (from 3/8" to 3" in size) and 25% humus (fines) (3/8" minus). Full Circle Compost (Mulch is called "Integrated 25%") and Bently Agridynamics, both in Minden, Nevada, produce a mulch that satisfies these requirements.

Mulch shall be applied by means of a pneumatic conveying system capable of blowing the mulch at rates between 10 and 15 cubic yards per hour and shall be capable of blowing the mulch a distance of 300 feet as necessary to access slopes. The conveying equipment shall have a self- contained dust suppression system.

Contractor shall submit written certification that the mulch is weed free.

5. Tackifier

Tackifier shall include wood-cellulose fiber mulch. The term "tackifier" used in these Special Provisions shall mean tackifier with wood-cellulose fiber mulch. The Tackifier material shall be of an organic, plant-derived substance containing psyllium, guar gum, cornstarch such as PT-TAC, Reclamare 2400, M-Binder, Eco-tak, Fisch-Stick, or approved equal. Material shall form a transparent 3-dimensional film-like crust permeable to water and air and containing no agents toxic to seed germination. Mulch shall consist of degradable green-dyed wood-cellulose fiber or 100%-recycled long-fiber pulp (recycled newspaper), free from weeds or other foreign matter toxic to seed germination.

Mulch shall be anchored with tackifier within 48 hours of application. A hydroseeder with a paddle wheel agitator shall be used to evenly apply the tackifier mixture at the following rates under suspension unless otherwise approved. Contractor shall apply tackifier to all areas where mulch has been applied. The Tackifier shall be mixed and applied in accordance with the following:

Wood-cellulose fiber mulch:	500 lbs/acre
Tackifier:	130 lbs/acre
Water:	As needed

Tackifiers shall be applied using a commercial hydraulic mulcher with a built-in agitation system that has sufficient capacity to agitate, suspend, homogenize, and apply materials (at indicated rates) specified for hydraulic application in this section of the Special Provisions.

Information regarding mulching and humus blowing and tackifier application equipment that Contractor proposes to use for this project shall be presented for review and approval by Engineer no later than ten (10) days prior to the proposed use. Hydraulic/Pneumatic applications of humus, mulch, and tackifier shall not be

conducted during windy conditions (greater than 8 mph) to insure uniform application and proper placement of these materials at specified rates. To facilitate proper placement of these materials, applications shall consist of a continuous operation where each treatment follows the preceding as specified above. Specified materials shall be applied to individual identified areas within a single seeding work shift. Under no circumstances shall any one application be completed independent of completion of the others.

10-1.11 STEEL-BACKED TIMBER GUARDRAIL

Steel-backed timber guardrail shall be constructed in conformance with the provisions in Section 83-1, "Railings," of the Standard Specifications and these Special Provisions.

Steel-backed timber guardrail shall be Type A, blocked-out, as shown on the Plans. Timber shall conform to AASHTO M 168. Fabrication of the timber rail, blockouts, and posts, shall be from dry, well seasoned, dressed rough sawn Douglas fir, southern pine, or other species having a stress grade of at least 1,500 pounds per square inch. Timber rail, blockouts, and posts shall be treated with CCA, ACZA, or ACA preservative treatment conforming to AWWA C14, except the minimum retention shall be 2 pounds per cubic foot.

Steel backing elements shall be fabricated from 3/8" structural steel conforming to ASTM A 242. Hole diameters or slot dimensions in rail elements shall not be modified. Field holes may be drilled and steel splice plates may be field cut at joints only on curved sections or where required to correspond to the field cut wood rails at joints. Torches shall not be used to cut holes, slots, plates or rails. Fastener hardware shall conform to ASTM A 242.

Barrier markers shall be installed as shown on the Plans. Barrier markers shall conform to the provisions in Section 8-1.02, "Prequalified and Tested Signing and Delineation Materials," of these Special Provisions.

Post lengths shall be installed as shown on the Plans. Field cuts shall be treated with 2 coats of chromated copper arsenate. Field cuts shall not be in contact with the ground.

Posts shall be driven into pilot holes that are punched or drilled. The dimensions of the pilot hole shall not exceed the dimensions of the post by more than 1/2". Posts shall be set plumb, backfilled, and compacted. If an obstruction is encountered while placing posts, enlarge the hole to provide not less than 6" clearance on all sides and to a minimum depth of 30". Set the post in concrete to within 6" of the top of the hole. Backfill and compact the remaining 6" with native material or approved imported fill. See Appendix C, "Concrete Anchor for Short Guardrail Post" detail on sheet 617-60. If an obstruction is encountered while placing posts, no more than 3 consecutive short guardrail posts shall be used.

The post length shall be stamped on the top of all wood posts. Numbers shall be restamped if disturbed during installation.

Bolts along the front face of the timber rail shall match the holes in the steel backing, as shown on the Plans. Align timber guardrail along the top and front edge of the rail.

Timber rails shall be field cut to produce a close fit at joints. Field cuts shall be treated with 2 coats of chromated copper arsenate.

10-1.12 AGGREGATE BASE, CLASS 2

Aggregate base shall be Class 2 in conformance with the provisions in Section 26, "Aggregate Base," of the Standard Specifications.

In lieu of the second sentence in the second paragraph in Section 26-1.02A, "Class 2 Aggregate Base," of the Standard Specifications, the grading for 3/4" maximum shall be used where aggregate base other than recycled AC base is specified.

County will, at their expense, provide compaction testing of Class 2 Aggregate Base to verify that Contractor has achieved the specified compaction. Relative compaction will be based on the maximum dry unit weight

as determined by ASTM D-1557. Corrections to the Unit Weight for containing oversize particles will be made in accordance with ASTM 4718. Any areas of Class 2 Aggregate Base that are pumping will not be acceptable.

10-1.13 NOT USED

10-1.14 ASPHALTIC EMULSION (PAINT BINDER)

Asphaltic emulsion (paint binder) shall conform to the provisions of Section 94, "Asphaltic Emulsions," and Section 39-4.02, "Prime Coat and Paint Binder," of the Standard Specifications and these Special Provisions.

Paint binder shall be asphaltic emulsion SS-1, applied in one application at the approximate rate of 0.05 gallons per square yard of surface covered. The exact rate of application will be determined by Engineer.

Full compensation for furnishing all labor, equipment, and materials involved in applying asphaltic emulsion as a paint binder shall be considered as included in the various contract items of work and no additional compensation will be allowed therefor.

10-1.15 ASPHALT CONCRETE

All Asphalt Concrete shown on the Plans shall conform to these Special Provisions and to the provisions in Section 39, "Asphalt Concrete," of the Standard Specifications except that the material shall be as specified herein.

Alternative 1 – Asphalt Concrete

Unless otherwise directed by Engineer, asphalt binder to be mixed with the mineral aggregate shall be steam-refined paving asphalt, performance grade, PG 64-28.

Aggregate grading shall conform to the following gradation requirements:

Sieve Sizes	Percentage Passing
2"	95-100
3/8"	90-100
No. 4	60-77
No. 8	42-60
No. 30	25-38
No. 200	5-10

S.E. = 32 minimum for all material passing No. 4 sieve. The gradation above shall be considered the "contract compliance range" as described in the Standard Specifications.

Alternative 2 – Asphalt Concrete

Asphalt concrete shall conform to Type A 1/2" maximum medium of the Standard Specifications. Asphalt binder to be mixed with the mineral aggregate shall be steam-refined paving asphalt conforming to the provisions in Section 92 "Asphalts," of the Standard Specifications and shall be PG 64-28PM.

General

Contractor shall submit an asphalt concrete mix design for each type of asphalt proposed for use on the project including Sand Equivalent test results, optimum bitumen content, unit weight, source of aggregate, gradation tests of aggregate, percent (%) air voids and stabilometer values for the proposed design mix to be used. The mix design shall be no older than six (6) months, to insure that the mix supplied is consistent with the mix design. The design and test results shall be submitted to Engineer within ten (15) working days of after the Notice to Award of Contract letter and at least ten (10) working days prior to the start of paving

operations. No work shall be done until the design is approved by Engineer. The mix design shall be in effect until modified by Engineer. Should a change in sources of material be made, a new mix design, and Sand Equivalent test must be established before the new material is used.

Unless otherwise directed in writing by Engineer, Contractor shall furnish and use canvas tarpaulins to cover all loads of asphalt concrete from the time that the mixture is loaded until it is discharged from the delivery vehicle.

Measurement and Payment

Measurement of asphalt concrete quantities shall be in accordance with the item descriptions containing asphalt concrete work.

Full compensation for the asphalt concrete, including supply, spreading, and compaction shall be included in the various contract items that require asphalt concrete.

10-1.16 NOT USED

10-1.17 CULVERT AND CMP STRUCTURES

Culvert pipe shall be high-density polyethylene pipe (HDPE) or corrugated metal pipe (CMP) as specified on the Plans. All culverts shall have soil tight gasketed joints.

CMP

Corrugated metal pipe shall be steel and conform to the requirements of Section 66, "Corrugated Metal Pipe," of the Standard Specifications, and these Special Provisions. CMP structures shall be corrugated galvanized steel pipe. Galvanizing shall conform to Section 75-1.05, "Galvanizing," of the Standard Specifications. For CMP culvert the maximum allowable horizontal deflection shall be 5 degrees.

Corrugated Metal Pipe (CMP) shall have the following minimum thickness:

STEEL THICKNESS FOR CORRUGATED METAL PIPE	
Diameter of pipe, inches	Steel Gauge thickness, minimum
6	16 gauge (0.064")
12	14 gauge (0.079")
18	14 gauge (0.079")
24	14 gauge (0.079")
30	14 gauge (0.079")
36	12 gauge (0.108")
48	12 gauge (0.108")

General

Pipes shall be laid to the lines and grades shown on the Plans and established by Engineer. The subgrade on which the culverts will be placed shall be finish graded with the use of a string line or other similar method to assure the culverts are set on smooth, straight grades consistent with the slopes and elevations shown on the Plans with no deviations along the length of pipe. Compaction of bedding and backfill shall conform to Section 10-1.10, "Excavation and Grading," of these Special Provisions.

Attachment of culverts to sediment traps shall conform to the sediment trap detail shown on the Plans. Field fabrication and prefabrication requirements for sediment traps and their attachments shall be as specified in the respective bid items. Welded joints that damage galvanizing shall be repaired with a corrosion resistant coating.

Contractor's method of operation for culvert installation shall conform to the requirements of the Traffic Control Plan and as outlined in Section 10-1.03, "Maintaining Traffic," and Section 10-1.04, "Traffic Control Plan," of these Special Provisions.

The interior of the pipeline shall be cleaned as the work progresses.

10-1.18 FLARED END SECTIONS

Flared end sections shall be galvanized prefabricated steel flared end sections and shall conform to the requirements in AASHTO M36 and M218. The flared end sections shall be equipped with galvanized toe plates.

Full compensation for furnishing all labor, materials, tools, equipment, and incidentals, and for doing all work involved in installing flared end sections, including excavation and backfill, complete and in place shall be considered as included in the contract unit price for flared end sections, and no additional compensation will be allowed therefor.

10-1.19 CONCRETE STRUCTURES

Portland Cement Concrete structures shall conform to the provisions in Section 51, "Concrete Structures," and/or Section 73, "Concrete Curbs & Sidewalks," of the Standard Specifications and these Special Provisions. Portland Cement Concrete shall conform to Section 90, "Portland Cement Concrete," of the Standard Specifications, except as noted herein.

Reinforcement shall conform to the details shown on the Plans, these Special Provisions, and Section 52, "Reinforcement," of the Standard Specifications and shall conform to the requirements of ASTM Designation A615 Grade 60.

Portland Cement shall be Type II with no mineral admixtures.

Contractor shall supply concrete mix designs for all items of work requiring concrete within fifteen (15) working days of the receipt of the Notice to Proceed and at least five (5) working days prior to the start of the concrete work associated with these items.

Concrete for sediment trap bases peelercore fence, access gates, removable bollards, and guardrail post anchors, shall be minor concrete as defined in Section 51, "Concrete Structures," of the Standard Specifications and shall have not less than 548 pounds of cement per cubic yard. Sediment trap bases shall be precast. Grout shall be a six-sack mix with not less than 590 pounds of portland cement per cubic yard.

Slurry cement backfill shall conform to the provisions of Section 19-3.062, "Slurry Cement Backfill," of the Standard Specifications, except that the mix shall contain 282 pounds of cement (i.e. 3-sack mix).

Pigments for colored concrete shall comply with ASTM C979 "Pigments for Integrally Colored Concrete."

10-1.20 DEWATERING

This section outlines acceptable dewatering methods and locations for the disposal of dewatering effluent for the installation of the sediment traps and culverts identified in the dewatering item descriptions.

Contractor shall furnish, install, and operate pumps, pipe, appliances, and equipment of sufficient capacity to keep all excavations that require casting concrete in place or all construction that requires compaction under optimum moisture conditions free from water until the areas are backfilled and compacted in accordance with these Special Provisions. All water removed from such excavations shall be placed in a water truck(s). Contractor shall provide water truck(s) of sufficient capacity so as not to delay the dewatering operations by frequent emptying of the water truck(s). Contractor shall provide all means or facilities to conduct water to the pumps and to the water truck(s) for disposal as specified herein.

The dewatering effluent shall be discharged from the water truck(s) and applied to high land capability areas (Class 3, 4, 5, 6, 7, not SEZ = Class 1b. See Sheet L-1 of the Plans) for dust control, irrigation, or for use in the tire wash areas.

Alternatively, Contractor may discharge the dewatering effluent onto non-sensitive lands by pumping the effluent through a piping system.

The dewatering effluent shall be discharged in such a manner as to prevent erosion. Contractor shall install temporary erosion control measures where dewatering effluent is discharged as necessary to control sediment transport.

Full compensation for furnishing all labor, tools, material, and equipment necessary to dewater the above referenced excavations and areas to be compacted shall be included in the price bid for each dewatering item and no additional compensation will be made therefor.

10-1.21 ROCK SPECIFICATIONS

This section applies to all rock in bottom of sediment traps, modified grass-lined swales, rock-lined channels, rock dissipators, rock slope protection, and rock bowls included in the Contract work. Attention is directed to Section 10-1.10, "Excavation and Grading," of these Special Provisions for the specifications for permeable material.

This Section 10-1.21, "Rock Specifications," shall **replace** Section 72, "Slope Protection," of the Standard Specifications.

All rock shall conform to the following quality requirements:

<i>Test</i>	<i>California Test</i>	<i>Requirement</i>
Apparent Specific Gravity	206	2.5 min.
Absorption	206	4.2% max*
Durability Index	229	52 min.*

Coarse Durability Index

$$\% \text{ Absorption} + 1 = \text{Durability Absorption Ratio (DAR)}$$

*Based on the formula contained herein, absorption may exceed 4.2% if DAR is greater than 10. Durability Index may be less than 52 if DAR is greater than 24.

Rock Materials. The following grading restrictions shall apply to each type of rock specified:

No. 1 Rock Backing

<u>Rock Size</u>	<u>Percent Smaller Than</u>
16"	100
12"	75-100
8"	0-20
6"	0

Percentage is based on the number of rocks per size range versus the total number of rocks in any 100 SF area. Rock size shall be measured along the smallest dimension of each rock.

Where 18" thickness of rock layering is designated on the Plans, it shall be interpreted as a nominal thickness. This means that some areas may be 16" thick, some may be 18" and some may be greater than 18" thick. In any case, in any 100 SF area of rock, the average thickness of the rock layering shall not be less than 18".

Rock shall be angular with not fewer than three fractured surfaces and of such shape as to form a stable protective structure after placement. The use of rounded cobbles will not be permitted.

All rock color shall blend with the surroundings and shall not consist of bright, light colors such as light gray, white, or off-white. At least 50% of the rock shall have at least one surface that is weathered (i.e. exhibiting signs of oxidation). Samples of acceptable rock coloring are available for viewing at County of El Dorado Department of Transportation, 924B Emerald Bay Road, in South Lake Tahoe, CA.

Application of erosion control blanket, turf reinforcement mat, or filter fabric or prior to rock placement shall be performed in accordance with other portions of these Special Provisions and in accordance with applicable Plan details.

Rock Placement for Rock Bowl, Rock Dissipator, and Modified Grass-Lined Swale, and Rock-Lined Channel. On each rock, three perpendicular axes can be identified in three dimensions: a short axis, an intermediate axis, and a long axis. In order to produce the most stable and aesthetic appearing revetment, with a relatively uniform rock surface, rock shall be placed with the short axis in a vertical plane parallel to the face of the slope, the intermediate axis perpendicular to the face of the slope, and the long axis horizontal and parallel to the face of the slope. Each rock shall have a minimum of three points bearing on the rocks below and adjacent. Every effort shall be made to place the rock with the weathered surface exposed.

Rocks shall be placed so as to provide a minimum of voids. The larger rocks shall be placed in the toe course. The rock shall be placed in accordance with the lines and grades as shown on the Plans to form the specified cross section in a roughly regular surface without large cavities or excess projections above the general lines of the rock layer.

For rock dissipator, Contractor shall key in the full diameter of the rocks such that the top of all rock is at the same elevation at the edge of the rock structure (e.g. top of bank for rock-lined channel) as the adjacent finished grade. Rock placement for channels shall proceed both from the lowest end towards the upper end and from the center of the channel towards the sides.

Rock Placement for Rock Slope Protection. A footing trench shall be excavated along the toe of slope as shown on the Plans. The larger rocks shall be placed in the footing trench.

Rocks shall be placed with their long axis normal to the embankment face and arranged so that each rock above the foundation course has a 3-point bearing on the underlying rocks. Foundation course is the course placed in the footing trench. Bearing on small rocks which may be used for chinking voids will not be acceptable. Placing of rocks by dumping will not be permitted. Every effort shall be made to place the rock with the weathered surface exposed.

Compensation for furnishing and installing all rock, including all necessary disposal of excavated material, will be at the contract price per various associated items of work and no additional compensation will be allowed therefor.

10-1.22 DISTURBANCE AND REVEGETATION

Other than topsoil mix, mulch, and tackifier furnishing and application performed by Contractor, the CCC under the direction of County will perform all revegetation work including, but not limited to, slopes and pipe out of pavement, all disturbance within the filter fencing or construction limit fencing and staging areas that are disturbed. Attention is directed to Section 10-1.01, "Order of Work," of these Special Provisions for requirements regarding Contractor's cooperation with the CCC.

Contractor shall not disturb any area beyond the construction area limits shown on the Plans, and staked and fenced in the field, or disturb any areas outside of the areas to be disturbed by construction of the improvements as indicated on the Plans. Should such disturbance occur, Contractor will be liable for the following costs:

1. \$3.65/sq ft revegetation cost to be performed by the CCC's.

2. Provide mitigation of disturbance as required by TRPA.

10-1.23 EROSION CONTROL BLANKET, TURF REINFORCEMENT MAT, AND FILTER FABRIC

This section applies to the erosion control blanket, turf reinforcement mat, and filter fabric, specified to be placed underneath the various rock-lined structures, grass-lined swales, and sediment traps shown on the Plans. The table below outlines the acceptable products for each of the aforementioned applications.

	APPLICATION	PRODUCT
EROSION CONTROL BLANKET	Under Rock Slope Protection	C125 as manufactured by North American Green or Landlok C2 as manufactured by Propex, or approved equal.
TURF REINFORCEMENT MAT	Under rock-lined channels, rock bowls, rock dissipators, and modified grass-lined swales.	Landlok TRM 450 as manufactured by Propex Geosynthetics or P300 as manufactured by North American Green, or approved equal.
FILTER FABRIC (woven)	At the soil or aggregate base interface with Class 1 Type A or Type B permeable material.	Geotex 2130 as manufactured by Propex, or 100X as manufactured by Mirafi, or approved equal.

The fabric shall be furnished in protective covers capable of protecting the fabric from ultraviolet rays and water.

Contractor's attention is directed to Section 10-1.24, "Temporary Erosion Control and Storm Water Pollution Plan (SWPPP)", of these Special Provisions for the filter fabric requirements associated with temporary erosion control measures.

Full compensation for furnishing and installing erosion control blanket, turf reinforcement mat, and filter fabric as shown on the Plans and as specified in these Special Provisions shall be considered as included in the various items of work, and no additional compensation shall be made therefor.

10-1.24 TEMPORARY EROSION CONTROL AND STORM WATER POLLUTION PREVENTION PLAN (SWPPP)

Contractor is advised that, due to the steepness and erodability of the work area, temporary erosion control provisions of these Specifications will be strictly enforced. It is Contractor's responsibility to determine the effect that temporary erosion control measures will have on construction operations, and to fully account for this effect in the bid price for the work.

Contractor shall attend a pre-grade inspection meeting with TRPA prior to the start of any work, other than temporary erosion control installation. All temporary erosion control facilities shown on the Plans shall be in place prior to any soil disturbance or excavation.

In addition to temporary erosion control facilities shown on the Plans, Contractor shall provide additional temporary erosion control facilities as necessary to prevent adverse water quality impacts.

A fine of \$100/day will be levied against Contractor for each day Contractor delays in responding to Engineer's request to install new temporary erosion control devices and/or maintain existing temporary erosion control devices.

Requirements: Temporary erosion control requirements shall be in accordance with Tahoe Regional Planning Agency's "Best Management Practices and Ordinances" and permits for this project, the Lahontan Regional Board Order pertaining to the project, and the California Tahoe Conservancy requirements. Water quality effluent limits must be in accordance with the following values:

TRPA and Lahontan Water Quality Limits

Constituent	Surface Waters		Infiltration Systems	
	Lahontan	TRPA	Lahontan	TRPA
Total Nitrogen as N	0.5 mg/l		5 mg/l	
Dissolved Nitrogen as N		0.5 mg/l		5 mg/l
Total Phosphate as P	0.1 mg/l		1 mg/l	
Dissolved Phosphate as P		0.1 mg/l		1 mg/l
Total Iron	0.5 mg/l		4 mg/l	
Dissolved Iron		0.5 mg/l		4 mg/l
Turbidity	20 NTU		200 NTU	
Suspended Sediment		250 mg/l		
Grease & Oil	2 mg/l	2 mg/l	40 mg/l	40 mg/l

Source: Storm Water Quality Improvement Committee document

Note: Surface Water values also apply to discharges to SEZs.

Temporary erosion control shall consist of taking necessary measures to minimize erosion and resulting transport of sediment from graded or disturbed areas into natural or man-made facilities within and outside the project limits. Temporary erosion control shall continue to be effective through the completion of Work and shall be maintained as required during the course of Work.

Contractor shall install and maintain all erosion control measures shown on the plans as well as all measures required by TRPA's permit conditions, including but not limited to Best Management Practices and the following construction/grading conditions:

Construction/Grading Conditions:

The following conditions shall be complied with during the grading and construction phase of the project:

1. All construction shall be accomplished in strict compliance with the Plans approved by TRPA.
2. The TRPA permit and final construction drawings bearing the TRPA stamp of approval shall be present on the construction site from the time construction commences to final TRPA site inspection. The permit and Plans shall be available for inspection upon request by any TRPA employee. Failure to present the TRPA permit and approved Plans may result in the issuance of a Cease and Desist Order by TRPA.
3. There shall be no grading or land disturbance performed with respect to the project between October 15 and May 1, unless proper approvals are obtained from TRPA, as provided in the limited exemption described in Subsection 4.2.A of the TRPA Code of Ordinances. Approvals from Lahontan are also required.
4. Except as provided in Subsection 64.2.B of the Code of Ordinances, there shall be no grading at any time of the year during periods of precipitation and for the resulting period of time when the site is covered with snow or is in a saturated, muddy, or unstable condition.
5. Replanting of all exposed surfaces by others, in accordance with the Plans, shall be accomplished within the first growing season following disturbance, unless an approved construction/inspection schedule establishes otherwise.
6. All trees and natural vegetation to remain on the site shall be fenced for protection. Scarring of trees shall be avoided and, if scarred, damaged areas shall be repaired with tree seal.
7. Soil and construction material shall not be tracked off the construction site. Grading operations shall cease in the event that a danger of violating this condition exists. The site shall be cleaned up and road right-of-way swept clean when necessary.

8. During grading and construction, environmental protection devices such as erosion control devices, dust control, and vegetation protection barriers shall be maintained.
9. Loose soil mounds or surfaces shall be protected from wind or water erosion by being appropriately covered when construction is not in active progress or when required by TRPA.
10. Excavated material shall be stored up grade from the excavated areas to the extent possible. No material shall be stored in any stream environment zone (SEZ land capability 1b) or wet areas as shown on Sheet L-1 of the Plans.
11. Only equipment of a size and type that, under prevailing site conditions, and considering the nature of the work to be performed, will do the least amount of damage to the environment shall be used. Construction equipment and vehicles shall be stored on pavement in the area designated on the Plans and in Section 5-1.36, "Storage of Equipment, Materials, Supplies, Etc.," of these Special Provisions when not in use.
12. Washing of tires of earth moving equipment/vehicles and washing of concrete equipment shall be allowed only in the areas designated on the Plans for these specific purposes. Cleaning of vehicles or construction equipment for other purposes shall not be permitted within the project area.
13. No vehicles or heavy equipment shall be allowed in any stream environment zone, or wet area, except as authorized by TRPA. All construction equipment authorized by TRPA to work in or near SEZ areas must be steam cleaned prior to mobilization to the SEZ area and maintained in clean and good working order with maintenance logs made available to TRPA at their request.
14. All construction sites shall be winterized by October 15 to reduce water quality impacts associated with winter weather as follows:
 - A. For sites that will be inactive between October 15 and May 1:
 - (1) Temporary erosion controls shall be installed;
 - (2) Temporary vegetation protection fencing shall be installed;
 - (3) Disturbed areas shall be stabilized;
 - (4) Onsite construction slash and debris shall be cleaned up and removed;
 - (5) Where feasible, mechanical stabilization and drainage improvements shall be installed; and
 - (6) Spoil piles shall be removed from the site.
 - B. For sites that will be active between October 15 and May 1, in addition to the above requirements;
 - (1) Permanent mechanical erosion control devices shall be installed, including paving of driveway and parking areas; and
 - (2) Parking of vehicles and storage of building materials shall be restricted to paved areas.
15. No Toxic materials shall be treated, stored, disposed of, spilled, or leaked in significant quantities within the project area. Contractor shall submit a Spill Contingency Plan in accordance with Section 5-1.36, "Storage of Equipment, Materials, Supplies, Etc.," of these Special Provisions.

The following are requirements for Best Management Practices that are to be installed and maintained to provide temporary erosion control prior to and throughout construction:

Sediment Barriers and Erosion Control Devices: Throughout the entire construction period Contractor shall be responsible for insuring that no material eroded from the site leaves the construction area via the conveyance system. Contractor shall provide adequate sediment barriers at all storm drain pipe outlets, drainage inlets and other collection points and provide adequate erosion control at channels and swales that have been graded but turf reinforcement mat, cobble, salvaged sod, or mulch, as applicable has not been

installed. Sediment barriers shall be constructed in accordance with the details shown on the Plans and include weighted fiber rolls or gravel-filled rolls, filter fence, and rice straw fiber rolls. Erosion control at channels and swales shall be constructed in accordance with the details shown on the Plans and shall consist of visqueen sheeting held in place with gravel bags or gravel-filled rolls.

Contractor shall install and maintain filter fences to intercept and filter sediment-laden runoff water leaving the construction site via overland flow. Care must be taken to insure that all runoff water must pass through, not over, under or around, the filter fence. The filter fence should be constructed from material specified in this section and in a manner to filter the runoff water without overtopping, collapsing, becoming overfilled with sediment, or having runoff flows skirt around the filter fence.

Visqueen sheeting shall be overlapped with the upstream edge over the top of the downstream edge to prevent runoff from flowing underneath the visqueen.

Protection of Existing Trees and Vegetation: Protect existing trees and other vegetation indicated to remain in place, against the following: Unnecessary cutting, breaking or skinning of roots, skinning and bruising of bark, smothering of trees by stockpiling construction materials or excavated materials within drip line, excess foot or vehicular traffic, or parking of vehicles within drip line.

At areas inside the drip line of existing tree branches within the construction area tree trunks shall be wrapped with construction limit fence then wrapped with the wooden tree trunk protection in accordance with detail shown on the Plans. Boards for wooden tree trunk protection shall not be nailed to trees and Construction Limit Fence shall be placed along the work area limits and around tree drip line perimeters as shown on the Plans and staked by Engineer.

Contractor shall water trees and other vegetation to remain within limits of contract work, as required to maintain their health during course of construction operations.

Contractor shall provide protection for roots over 1 1/2" diameter cut during construction operations. Contractor shall coat cut faces with emulsified asphalt, or other acceptable coating, formulated for use on damaged plant tissues. Contractor shall temporarily cover exposed roots with wet burlap to prevent roots from drying out; cover with earth as soon as possible. Contractor shall repair or replace, except where noted otherwise in these Special Provisions, trees and vegetation indicated to remain, which are damaged by construction operations, in a manner acceptable to Engineer at Contractor's expense.

Tire Wash Areas: Throughout the entire construction period, Contractor shall ensure that tracking of sediment to public streets outside the project area is minimized by cleaning all earth moving equipment/vehicles at a tire wash area before leaving the project site.

Concrete Wash Areas: Contractor shall ensure that concrete equipment is washed out only at the designated concrete wash areas. The concrete wash area shall be sized for washing all concrete equipment without overtopping the wash area.

Materials:

Gravel Bags shall be non-woven polypropylene geotextile or comparable polymer and shall conform to the following requirements:

Specification	Requirements
Mass per unit area, ounces per square yard, min. ASTM Designation: D 5261	8.0
Grab tensile strength (1 inch grip), pounds, min. ASTM Designation: D4632*	200
Ultraviolet stability, percent tensile strength retained after 500 hours, ASTM Designation: D4355, xenon arc lamp method	70

* or appropriate test method for specific polymer

Gravel bags shall be between 24 inches and 32 inches in length, and between 16 inches and 20 inches in width. Yarn used for binding gravel bags shall be as recommended by the manufacturer or bag supplier and shall be of a contrasting color.

Gravel shall be 1/2" to 1" and shall be clean and free from clay balls, organic matter, and other deleterious materials. The opening of gravel-filled bags shall be secured to prevent gravel from escaping. Gravel-filled bags shall be between 26 pounds and 45 pounds in mass.

Gravel-filled rolls shall be wrapped in woven high-density polyethylene with heat welded seams and shall contain 1/4" gravel.

Filter fence shall be constructed with metal fence posts, #14 gauge wire, and covered with filter fence material, Geotex 2130 as manufactured by Propex, or 100X as manufactured by Mirafi, or approved equal.

Visqueen shall be 6 mil polyethylene sheeting wide enough to cover the swale or channel cross section plus one-foot either side of the top of the swale or channel bank. To contain sediment and control erosion in an emergency (such as a heavy rainstorm), Contractor shall have on site 6 mil polyethylene film in a sufficient amount to cover all spoils. Contractor shall maintain the polyethylene film cover over the stockpile of materials in the staging/storage areas when not accessing the stockpile. The film shall be secured to remain in place during storm events. The costs associated with covering stockpiles of materials and securing the film in place shall be included in the unit prices bid for the various temporary erosion control items with no additional compensation therefor.

Weighted fiber rolls shall be eight inches in diameter and shall consist of a machined mat or blanket of shaved aspen wood curled excelsior with a weighted inner core contained in a photodegradable, extruded, high visibility netting tube with a handle on each end. Eighty percent of the excelsior material shall consist of fibers at least 6 inches in length. The fiber roll shall be contained in a tubular orange-colored netting knotted at each end made from 85% high-density polyethylene and 14% ethyl vinyl acetate with titanium oxide for UV inhibition.

Rice Fiber Rolls (also known as straw wattles) shall be at least eight inches in diameter and shall be an Earth Savers wattle as manufactured by R.H. Dyck, Inc. or Rice Straw Fiber Roll as manufactured by Kristar or approved equal. Wood stakes for securing rice straw fiber rolls shall be untreated fir, redwood, cedar, or pine, shall be cut from sound timber, and shall be straight and free of loose or unsound knots and other defects which would render them unfit for the purpose intended.

Woven Filter Fabric for concrete wash shall be Geotex 2130 as manufactured by Propex or 100X as manufactured by Mirafi, or approved equal.

Class 1 Types A and B Permeable rock filter shall conform to Section 10-1.10D, "Excavation and Grading," of these Special Provisions.

Tree Protection and Construction Limit Fence shall be constructed with high-density polyethylene open pattern safety barrier fence or metal mesh fence and shall be at least 48 inches high. Additional tree protection where fence cannot be placed at tree dripline shall be 2" x 4" x 8' wooden boards tied together by wire or rope laced through staples attached to boards. Wooden fence shall be bound to tree with wire or rope at three locations minimum. Construction Limit Fence shall be wrapped around the tree trunk prior to wrapping the wooden tree trunk protection around the trunk.

Maintenance of Sediment Barriers:

General

Engineer will take periodic turbidity readings of the effluent discharging from all filtering devices. If the effluent levels fall below the allowable limits listed above, Contractor shall take appropriate measures to bring the effluent levels within the allowable limits. These measures include removing deposited sediment from filter fencing, and other filter materials (e.g. weighted fiber rolls, gravel-filled rolls, or rice fiber rolls) after each

storm and cleaning or replacing filter materials. The sediment removed shall be disposed of in accordance with Section 10-1.10, "Excavation and Grading," of these Special Provisions.

Specific

Temporary gravel bags shall be repaired or replaced on the same day when the damage occurs. Damage to the temporary gravel bag resulting from Contractor's vehicles, equipment, or operations shall be repaired at Contractor's expense. Gravel bags or gravel-filled rolls shall be replaced when the bag material or roll material is ruptured or when the yarn has failed, allowing the bag contents to spill out.

Filter fence shall be repaired or replaced on the same day when the damage occurs. Damage to the filter fence resulting from Contractor's vehicles, equipment, or operations shall be repaired at Contractor's expense.

Rice straw fiber roll and weighted fiber rolls shall be maintained to disperse concentrated water runoff and to reduce runoff velocities. Split, torn, or unraveling rolls shall be repaired or replaced. Where applicable, broken or split stakes shall be replaced. Sagging or slumping fiber rolls shall be repaired with additional stakes or replaced. Locations where rills and other evidence of concentrated runoff have occurred beneath the rolls shall be corrected. Rice straw fiber roll and weighted fiber rolls shall be repaired or replaced on the same day when the damage occurs. Damage to the temporary fiber rolls resulting from Contractor's vehicles, equipment, or operations shall be repaired at Contractor's expense.

Filter Fabric shall be repaired or replaced the same day damage occurs. Damage to the filter fabric resulting from Contractor's vehicles, equipment, or operations shall be repaired at Contractor's expense.

Maintenance of Tire Wash Areas: Engineer will take periodic turbidity readings of the effluent discharging from the tire wash areas. If effluent limits for turbidity are exceeded, Contractor shall take the appropriate measures to bring the effluent limits into compliance. These measures include flushing the area to remove clogging of gravel bags or gravel-filled rolls and replacing Class 1 Type A Permeable Material filter medium.

Maintenance and replacement of gravel bags or gravel-filled rolls used in Tire Wash Areas shall conform to the requirements outlined above under Maintenance of Sediment Barriers.

Maintenance of Concrete Wash Areas: Contractor shall vector or otherwise clean the concrete wash areas as necessary to prevent overtopping of these facilities and before removing the woven filter fabric when the concrete wash area is no longer needed. Contractor shall remove hardened concrete and dispose of it in accordance with Section 10-1.10, "Excavation and Grading," of these Special Provisions and replace Class 1 Type A Permeable rock filter as necessary to keep the facility functional. After the facility is vectored and hardened concrete is removed, Contractor shall return the facility to a functional condition.

Maintenance and replacement of rice fiber rolls and woven filter fabric used in Concrete Wash Areas shall conform to the requirements outlined above under Maintenance of Sediment Barriers.

Removal: Except where noted otherwise in the Item descriptions, remove temporary erosion control measures only when all permanent structural and permanent erosion control measures have been implemented, and where designated elsewhere in these Special Provisions, upon approval by TRPA. Ground disturbance, including holes and depressions, caused by the installation and removal of the temporary erosion control measures shall be backfilled and compacted.

Payment for compliance with this section shall be considered as included in the applicable Items and no additional compensation will be made therefor.

10-1.25 CLEANUP

This section describes the cleanup of construction areas associated with the erosion control construction:

Cleanup and Dressing: After all of the work indicated on the Plans and Specifications is complete and before final acceptance of the project, the entire construction site including areas used for storage of supplies and equipment shall be neatly finished to the lines and grades shown on the Plans. Slopes shall be graded so as

to produce a slightly roughened (natural) appearance without damaging the existing or new improvements, trees, and shrubs.

Machine dressing shall be supplemented by hand work as necessary. At the completion of dressing, the project shall appear uniform in all respects. Trash of any kind shall be removed from the construction site and disposed of at Contractor's expense and all culverts shall be cleaned, unless otherwise directed by Engineer. All temporary erosion control devices shall be cleaned first and then removed unless noted otherwise. All pavement surfaces whether new or old shall be thoroughly cleaned by watering and sweeping.

No direct compensation shall be paid for cleanup work and Contractor shall include cleanup work as a part of the items of work.

10-1.26 SHORING AND EXCAVATION PLAN

Attention is directed to Sections 5-1.02A, "Excavation and Safety Plans," and 7-1.01E, "Trench Safety," of the Standard Specifications and OSHA 29 CFR Part 1926 Construction Industry Regulations and these Special Provisions.

Contractor shall provide a safe means of egress in trenches/excavations five (5) feet deep and greater by the use of sheeting, shoring and bracing, sloping the sides of the trenches/excavations, or equivalent method.

Contractor shall submit a detailed plan showing the design of the sheeting, shoring and bracing, or equivalent method which Contractor proposes to use during construction to Engineer in accordance with Section 5-1.02A, "Excavation Safety Plans," of the Standard Specifications, except that this plan shall be submitted to Engineer within five (5) working days prior to any proposed work requiring protection. No excavation or trenching requiring protection shall commence until the "Shoring and Excavation Plan" is acknowledged by Engineer.

Nothing in this provision shall be construed to impose tort liability on County or any of its employees.

If the Engineer determines that resources sufficient to bring the Contractor in compliance with this section "Shoring and Excavation Plan" have not been allocated, Engineer may redirect any and all of the Contractor's resources available at the project site toward this effort. In the event that Engineer redirects resources due to Contractor's non-compliance with the provisions of this section, "Shoring and Excavation Plan", the County will not be responsible for any delays to the Contractor's schedule resulting from the reallocation, and no compensation shall made therefor.

The following excavations require the use of sheeting, shoring and bracing, or equivalent method rather than sloping the sides of the excavation:

SHEET	STRUCTURE DESCRIPTION	APPROX. STATION

For all other trenches/excavations, unless sloping the sides of the trench/excavation causes no disturbance to the existing adjacent slopes and vegetation and does not extend beyond County right-of-way and/or the construction limit fence, Contractor shall shore or brace the trenches/excavations.

The costs associated with installing sheeting, shoring and bracing, sloping the sides of the trenches/excavations or equivalent method for trenches/excavations five feet deep and greater shall be paid for in accordance with the lump sum price bid for Item "Trench and Excavation Safety" and no additional compensation will be made. Contractor's attention is directed to Section 5-1.50, "Local, State, and Federal Agencies' Conditions of Approval and Permits," of these Special Provisions regarding permitting and Section

10-1.22, "Disturbance and Revegetation," of these Special Provisions regarding violation of the above requirements such that disturbance results.

10-1.27 TIMBER REMOVAL PRACTICES

1. Prior to timber harvest, all project temporary erosion control devices must be in place.
2. All care must be taken to minimize damage to trees and other vegetation not marked for removal. If such occurs, damaged vegetation will be removed at Contractor expense. Revegetation of the area will be in accordance with Section 10-1.22, "Disturbance and Revegetation," of these Special Provisions.
3. Contractor shall be liable for damage to utility service lines, fences or other structures.
4. Trees shall be felled to minimize disturbance to surrounding vegetation and traffic flow.
5. Contractor shall be responsible for all traffic control during timber harvest where applicable in accordance with the California MUTCD. This shall include, but is not limited to, two flaggers in constant eye or radio contact. Contractor shall also coordinate traffic control with the emergency service providers.
6. Trees noted to be removed must be cut to stump height sufficient for subsequent easy stump removal to a depth of 2 feet below the bottom of the proposed improvements if the stump and roots will interfere with the installation of the improvements.
7. Within a SEZ, trees to be removed must be felled, bucked to firewood length, and the green wood covered tightly with plastic and left in place, if not removed within 48 hours. Tree removal from the area shall occur when soil is dry and stable. Lengths shall be winched out, lifted with a cherry picker, or carried by hand. No mechanical equipment for tree removal shall be operated within an SEZ (Sheet L-1 of the Plans denotes the SEZ areas).
8. All wood products for resale must be removed from the site prior to resale.
9. All trees marked for removal must be removed from the site within 48 hours to reduce the spread of insects.
10. Contractor is responsible for complete site cleanup, including slash disposal. No slash may be stored or burned on site.

Other Requirements:

1. Contractor shall obtain a Timber Operator's License from the California Department of Forestry and Fire Protection (CAL FIRE) prior to starting work if the fuel wood or timber is to be sold.
2. Contractor must meet all County requirements for comprehensive and liability insurance prior to starting work.

SECTION 11. (NOT USED)

SECTION 12. (NOT USED)

SECTION 13. (NOT USED)

SECTION 14. FEDERAL PREVAILING WAGES

14-1.01 GENERAL

The work will be funded, in part, with Federal funds. The Federal Minimum Wages are included hereinafter and incorporated by reference, and are intended to comply with the federal requirements for partially federally funded projects, where applicable.

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